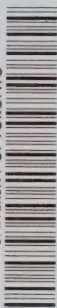


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L'Hygieniste Dentaire du Canada,
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the canadian dental hygienist

l'hygieniste dentaire du canada

SPRING/PRINTEMPS 1985

cover story

April is National Dental Health Month. Tooth decay and periodontal disease are our nation's greatest health problems in terms of the number of people affected and persistence. As specialized dental health educators, dental hygienists will be participating in various dental health month projects during April. Some projects such as toothbrush exchanges will be aimed at children. Other projects such as mall displays will be aimed at high school students and adults, and projects such as denture cleaning and identification programs to geriatric groups. If your local society participates in a unique dental health month project, please let us know about it, and remember to request certificates of appreciation suitable for framing for all participants from the CDHA Community Dental Health Committee, #1-14310-80 Street, Edmonton, Alberta T5C 1L6.

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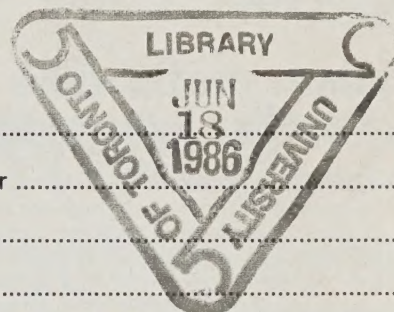
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THE CANADIAN DENTAL HYGIENIST is the official journal of the Canadian Dental Hygienists' Association and is published quarterly.

All journal communications should be directed to the Editor, except subscription and advertising matters which should be addressed to the respective staff members.

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The opinions expressed in editorials or articles are those of the authors and do not necessarily represent the views of the Association, the Publisher or the Editor.

L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée à tous trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient être adressés aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: \$15.00 par année au Canada et \$22.50 par année en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Éditeur ou du Rédacteur.

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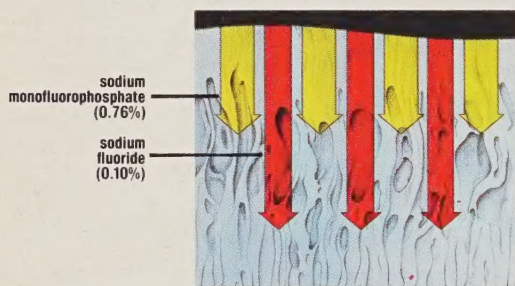
How Colgate's two fluoride formula achieves more complete remineralization resulting in nearly double the cavity protection of a single fluoride formula.*

A major role of fluoride in cavity prevention is to accelerate the process by which demineralized enamel is rebuilt.⁽¹⁻⁴⁾ This reverses white spot lesions which would otherwise become cavities.

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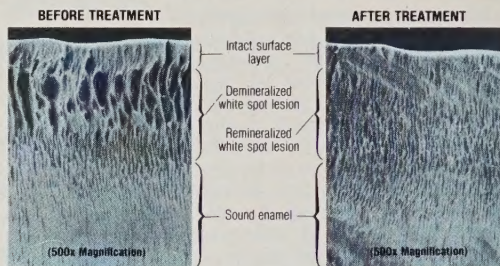
Why these two fluorides remineralize more completely.

It has been postulated that fluorides reach white spot lesions by penetrating enamel through the interprismatic spaces. Sodium monofluorophosphate, being a larger molecule, reacts with enamel primarily at the surface of a white spot lesion. Sodium fluoride, a smaller molecule, penetrates deeper into the lesion.



Working at different levels, the two fluorides may complement each other, enhancing remineralization over a greater area of the lesion than a single fluoride* alone.

This complementary action means more fluoride is available to enhance remineralization over a greater depth of the lesion than is provided by either fluoride alone.^(5,6)



This more complete remineralization has been demonstrated in laboratory studies⁽⁷⁾ and can be seen in the photomicrographs above.

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Colgate with this two fluoride concept was tested in a three year clinical study.⁽⁸⁾ The results—Colgate's two fluoride formula provided 27.0% reduction in new caries versus 13.8% for the single fluoride positive control* (DMFT).

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*Sodium monofluorophosphate (0.76%)

REFERENCES

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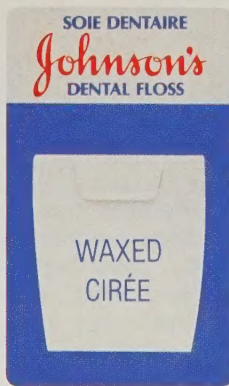
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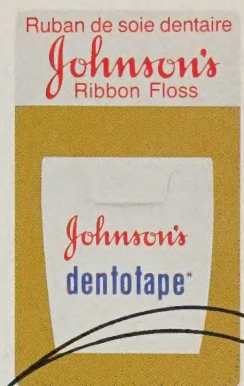
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comment

Thank-You Jo Gardner



Jo Gardner in her dental hygiene student days

This special "comment" is dedicated to Jo Gardner, who after 16 years as CDHA's Membership Chairperson, has retired her position, but certainly not her strong affiliation with this Association nor her desire to serve.

For those of you who do not know Jo's CDHA background, it reads as follows. She was an active CDHA member from 1965-74

and a life member since 1975, having missed only three national conventions and board meetings in the past 19 years. During this time, Jo has held numerous offices besides Membership Chairperson including constitution committee member, president-elect, president, immediate past-president, nominations committee chairperson, B.C. director to the board, dental health committee member, and she has represented the CDHA at the CDA Council on Auxiliaries and the CDA Board of Governor's meeting in 1969. She continues to serve this Association as second Canadian representative to the International Liaison Committee.

When asked to express her thoughts about stepping down from her position as membership chairperson, Jo wrote the following:

I was asked to share with you the best thing about being the CDHA membership chairman for the past 16 years. It can't be done, as there are more than just one 'best' thing.

In 1968, when the number of hygienists in Canada totalled about 650, we had limited information on file on which to base membership promotion, Association activities, and planning. I felt that building membership and the accompanying data file was something that I could do. By 1984, with nearly 5700 on file, it is time to move on. The job went from a

manual entry on cards to entry of data on a computer system developed by Ward McCance, a computer expert from Ontario. Then this past summer, CDHA moved the computer records to head office in Ottawa.

The membership has grown along with the numbers. Now rather than each province independently planning their own membership promotion campaign, one major campaign is coordinated nationally, with follow-up efforts done provincially, either by mail and/or telephone or personal contact. Over the years, I have had the pleasure of working with equally dedicated provincial membership chairmen, supportive executives, and board members, editors, and other national committee chairmen. The friendships that have been made, the opportunities to meet many on their homeground at conventions, workshops, and board meetings more than compensate for the time spent and any frustrations that have occurred. (I would be less than honest if I didn't admit that I did have some of the latter.)

However, I am an optimist and continue to look forward to future growth in numbers and recognition of our Association as a viable, influential professional organization. Linda Berry, the new membership chairman, and future workers will continue to build upon the past for greater benefits to the membership. I have fulfilled one commitment, but will continue to be involved in this Association if for no other reason than to be able to meet so many friends again in the future.

For a short while, I am going to take some time with the latest addition to the family, Rebecca Lynn, our first granddaughter.

Jo also included this quote by an unknown author to share with us. "The grand essentials to happiness in this life are – something to do, something to love, and something to hope for."

Jo, you are the epitome of an active CDHA member and it would be no exaggeration to say that you've done more to build this Association's membership than anyone. On behalf of the entire membership, "Thank-you Jo Gardner." □

Stephanie Nagle

Stephanie Nagle
Editor

newsl ine

Laura Mowat is new CDHA President

A 1974 graduate from the University of Alberta, Laura Mowat, was installed as the 22nd CDHA president at the 1984 CDHA board meeting held at the Briar's, a resort north of Toronto, in late October.

"The board meeting brought to light several issues on which CDHA will want to focus its attention this year," says Laura.

"Of paramount importance is Ellen Brownstone's report on Quality and Competence Assurance. The board will want to look closely at the recommendations made in this report as they have long range implications which tie in with accreditation and portability."

Besides earning her dental hygiene diploma in '74, Laura also graduated with a B.Ed. degree from U. of A. Since that time she has practised in community dental health, private general practice, and in a periodontal office

where she continues to work three days a week.

Laura's executive for the '84-'85 term includes Marg Wilson (nee Suss) as secretary and Kathy Starko as treasurer. All three women have served as executive members for the Alberta Dental Hygienists' Association. Laura has also served as one of Alberta's directors to the CDHA board, as First Vice-President, and as President-Elect.

When asked about other critical issues facing this year's board and executive council, Laura points to developing a national survey, possibly restructuring the board of directors to expediate proceedings and reduce costs, and maintaining and improving relations with other dental professionals.

In her "spare" time, Laura and husband Bob, a public health inspector, enjoy skiing, golfing, and taking care of 11-month-old Linnea Dawn, and Rocky their springer spaniel.



Laura Mowat from Edmonton, Alta. takes on '84-'85 CDHA presidency.

Evelyn Morse identified as the first practicing dental hygienist in Canada

In the summer '84 issue of the journal, we announced that we were searching for the first practicing dental hygienist in Canada. From all the responses to our search, Evelyn Morse, RDH of Saint John, New Brunswick has been identified as the first practicing dental hygienist in Canada.

Evelyn received her dental hygiene diploma from Forsyth Dental Centre in Boston, Mass., in 1936. After graduating, Evelyn was employed as a dental hygienist by the Mass. Dept. of Public Health, Division of Child Hygiene. She married a Canadian, Dr. L.R. Morse, and moved to Nova Scotia in December, 1940.

The Morses moved to Montreal in late June, 1941, where Dr. Morse started his residency in Urology at the Royal Victoria Hospital. Urologists were not paid a salary in those days so that Evelyn tried to find employment as a dental hygienist to supplement their finances. Hygienists were not recognized in Canada, consequently,

Evelyn took a dental assisting job with Dr. H.C. McNabb, and at the end of 1941 and early 1942, with Dr. Cyril Flannagan on St. Catherines Street. Dr. Flannagan was associated with McGill Dental School and allowed Evelyn to do some scaling and polishing.

"My duties were limited and patients were not booked for me. Dr. Flannagan allowed me to clean teeth when he was tired and wanted to rest," says Evelyn.

"I left Dr. Flannagan after a few months as salaries were low - \$15.00 per week - and there appeared to be no future for my profession with such limited duties."

The family moved to New Brunswick in 1947 where Evelyn devoted herself to raising her four children and became active with the school board and the Canadian Co-ordinating Council on Deafness.

"In 1968 I was asked by two dentists in N.B. to return to work. I submitted my credentials to Dalhousie and on Aug. 22, 1968, I received my N.B. license. In 1969 I returned to Forsyth

for a refresher course, renewed my Massachusetts license, and in August I returned to private practice with Dr. J.L. Thompson in Rothesay, N.B. I have been employed as a dental hygienist ever since and, at present, I am working one day a week for Dr. Jerry Wowchuk in Saint John."

"In 1979 our daughter, Ann Lord, a "mature student" at Dalhousie, received her diploma in dental hygiene. We are the first mother and daughter hygienists registered in N.B.," notes Evelyn.

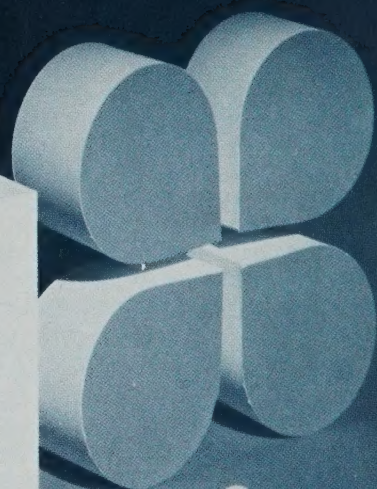
"I have seven grandchildren and am still enjoying my profession. Maybe I can influence my only granddaughter to become a hygienist too!"

From other responses, we learned that Saskatchewan was the first province to amend its' Dental Practice Act to allow hygienists to practice, and the first person to be registered as a dental hygienist in Saskatchewan in 1948 was Mary Brett who began practice with her brother and father in 1949.

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Members respond to "It's Your Money: How Should We Use It?"

Twenty-nine CDHA members responded to the "It's Your Money: How Should We Use It?" questionnaire which was included in the summer issue of the 1984 journal.

The overall top five priorities according to those who responded to the questionnaire were:

1. development of processes to facilitate portability
2. development of the computerized information system
3. incorporation
4. membership recruitment
5. continuing education

Two of these priorities have already received attention. CDHA has purchased its own microcomputer hardware and software so that the Association's information systems can be further developed. As well, CDHA is currently in the process of becoming incorporated. Incorporation itself is not expensive (about \$200) and restructuring the Board of the new non-profit corporation will allow annual savings of thousands of dollars.

Membership recruitment and continuing education have always received strong support and will continue to do so. Extension of services in these areas will be sought.

CDHA, at its 1984 Board meeting, made a commitment to provide financial support for a project of the Steering Committee on Accreditation. This project is very important to the portability situation as it will develop a competency profile for Canadian dental hygienists. CDA and CDHA are sharing the cost of the project which will be an important step towards modifying and improving accreditation and portability processes.

Please take note . . .

• To order CDHA's oral health poster "Smile for Life" of "Sourions à la Vie", at \$1.50 each or \$35.00/25 posters, send cheque or money order payable to CDHA, 1320 Carling Ave., Ottawa, Ont. K1Z 7K9. (613) 728-8730.

• French or English copies of the Proceedings of the Conference on Dental Hygiene Research are available free of charge through Mrs. Sharon B. Amer (formerly French), Advisor, Dental Health Standards,

Health Services Directorate, Department of National Health and Welfare, Ottawa, Ont. K1A 1B4, or from Mrs. Marnie G.E. Forgay, Professor, School of Dental Hygiene, Faculty of Dentistry, University of Manitoba, 780 Bannatyne Avenue, Winnipeg, Man. R3E 0W3. Multiple copies are available for local societies and students.

• Dalhousie University was not the first school to offer a professional re-entry preparation course for dental hygienists as was reported in a news item in our fall '84 issue. The University of Manitoba has offered several such courses, the first being in June, 1972.

• As part of the work on the Health and Welfare funded project to develop clinical practice standards for dental hygienists, a bibliography of selected references on quality assurance has been compiled by J. Pimlott and S. Feller. There are three versions of the bibliography: one organized by author; one by year; and one by topic. To obtain copies, write to S. Feller, Box 1052, Stonewall, Man. R0C 2Z0 and specify which version(s) you would like.

• National Dental Health Month, underway during April, marks the launch of a two-year Dental Awareness Program, the most ambitious promotion of dental health in Canada to date. This program, conducted by the Canadian Dental Association with the support and participation of the provincial dental associations, is being launched around the theme "Dental Health - Good For Life."

Activities will include a nation-wide media and public information campaign, distribution of educational materials, and co-ordination of special events. All of them are intended to promote positive attitudes toward dental health among the Canadian public.

• In the fall of 1984, a second annual follow-up of the 42 dental hygienist participants at the Conference on Dental Hygiene Research was conducted. Twenty-five of the 28 respondents reported being engaged in one or more research-oriented activities in the period Sept. 1983 - Sept. 1984.

- 18 were engaged in research projects
- two completed academic degrees, (one B.A., one M.Sc.)
- one was enrolled in a baccalaureate program
- four were enrolled in research oriented masters programs
- two were enrolled in Ph.D programs
- two were taking research-oriented

credit courses at the graduate level, but are not working toward a graduate degree

— six participants had a total of 21 papers published

— seven reported a total of six additional papers accepted for publication

— seven have presented papers at scientific meetings

— eight attended a total of 15 research/scientific conferences

— two submitted research grant applications (one was successful, the other still pending)

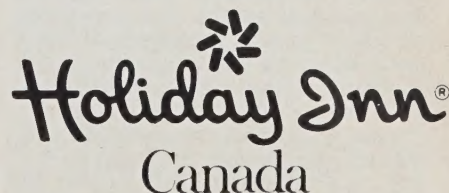
— one had been awarded four scholarships/training fellowships, including a N.H.R.D.P. Ph.D. training fellowship and

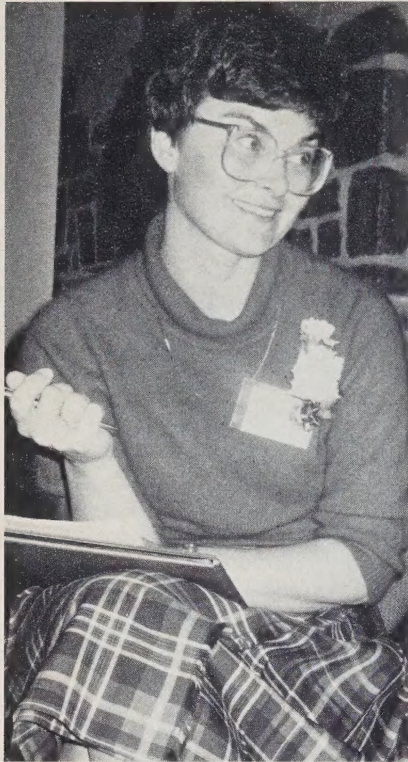
— one had edited a special nutrition issue of the *Journal Dentaire du Quebec*.

The above synopsis pertains only to dental hygienist conference participants and is not a comprehensive overview of all dental hygiene research endeavors during the year.

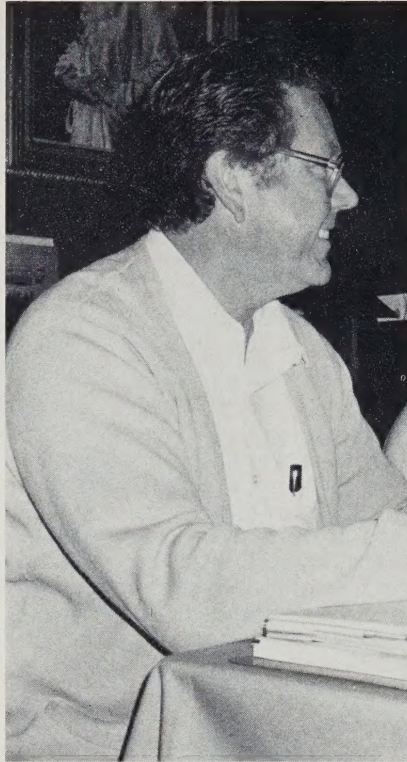
CDHA members get corporate rates at Holiday Inns

As a CDHA member, you are now entitled to "Club 500" rates at Holiday Inns across Canada. Members will be given 10% off the single person room rate published in the Holiday Inn directory with no additional charge for spouse. When two "Club 500" members share the same room, a discount of 10% is given from the double room rate. The reduced rate applies to any Holiday Inn in Canada. When making reservations, please be sure to request this special rate. The only identification you will require is your CDHA membership card. Corporate rates are available in the United States, but they are determined by the individual Holiday Inn. For further information about U.S. rates contact: Gale Leeke, Holiday Inns Inc., 3742 Lamar Ave., Memphis, Tenn. 38195, (901) 369-5523.

The logo for Holiday Inn Canada features a stylized sunburst icon above the words "Holiday Inn" in a script font, with "Canada" in a sans-serif font below it.



Past-president Mary Pelletier



CDA Accreditation Officer, Brian Henderson



Committee Chairperson, Sheryl Feller and daughter

Board names quality and competence assurance for dental hygiene practice a priority issue

Ellen Brownstone, Chairman of the CDHA Ad Hoc Committee on Quality and Competence Assurance delivered her committee's report at the 21st annual meeting of the CDHA board of directors held October 19-22, 1984 at The Briars, Lake Simcoe, Ontario.

Before recommending the action the CDHA should take in this area, Brownstone clarified the terms: dental hygiene practice; standards of practice; competence assurance; and quality assurance as defined by several health care groups who have already done years of work in developing competence and/or quality assurance program. For example, the Task Force on Standards of Practice created by the American Dental Hygienists' Association (ADHA) defines dental hygiene practice as: "those preventive, educational, and therapeutic services provided by the oral health professional known as the dental hygienist in order to provide health care to the public."¹ The ADHA defines competence assur-

ance as: "the certainty with which practitioners can identify throughout their careers their ability to carry out the responsibilities of their positions."² The American Dental Association defines quality assurance: "the assessment, or measurement of, or judgment about, the quality of care and the implementation of any necessary changes to either maintain or improve the quality of care rendered."³

Among the advantages that Brownstone pointed out for dental hygiene's involvement in a competence/quality assurance program were that it:

- illustrates dental hygiene's acceptance of accountability for services provided;
- emphasizes dental hygiene's sensitivity to consumer concerns and needs; and
- creates the opportunity for the profession of dental hygiene to develop a peer review system for clinical quality assurance and to have the authority to undertake reg-

ulatory action for practitioners whose performance is not meeting the standards.

Some of the negative factors related to the implementation of a competence/quality assurance program are that it requires an inordinate amount of time and effort from its developers, administrators, and participants, it is costly, and it may not be viewed positively by the dental hygiene practitioner.

Brownstone's report also included an update on the federal government's Working Group on the Practice of Dental Hygiene Project on the Development of Clinical Practice Standards for Dental Hygienists. The report stated that on August 31, 1984 the federal department of Supply and Services approved a contract between the Health Services Directorate of the Department of National Health and Welfare and Sheryl Feller

1. Stephenson, M. Professional Exchanges, Dental Hygiene, March, 1981: p.12.

2. Murrin, K. The Competence Assurance Program, Dental Hygiene, March, 1983: p.10.

3. Stern, S., Morrissey, S., and Maudlin, J. Quality Assurance in Dentistry, American Dental Association, 1978, Vol. 2.

of SJB Management Consultants for the development of clinical practice standards for dental hygienists. The project will extend over three years and will use the following methodology:

1. Review the literature to delineate clinical dental hygiene practice. From this review, a bibliography of selected references and an article on quality assurance will result. The article will be published in *The Canadian Dental Hygienist/L'Hygieniste Dentaire du Canada*.
2. Develop a framework for dental hygiene practice. The criteria (variables believed to be indicators of the quality of dental hygiene care) will be specified within this framework.
3. Consult with experts in clinical dental hygiene to establish the content validity of the criteria. Provincial associations will be asked to nominate dental hygiene clinical experts who will be considered for selection as a participant in a workshop slated for July 1985 in Winnipeg. (An expert is defined as a practicing dental hygiene professional who can provide expertise in the area of clinical practice and represent his/her dental hygiene colleagues.) Participants at the workshop will assist in reviewing and establishing the content validity of dental hygiene practice criteria.
4. Develop standards for the validated criteria.
5. Survey Canadian dental hygienists to establish the content validity of the standards.
6. Prepare a final report which will include a statement of the practice criteria and standards.

The methodology has been modelled after that used by the Manitoba Association of Registered Nurses (M.A.R.N.) in the development of their standards.

This project will be monitored by an Advisory Committee whose members are:

- Prof. Diane Lachapelle – Harvey (Chair) – Université Laval
Prof. Marnie Forgy – University of Manitoba
Dr. Larry Chambers – McMaster University
Ms. Kathleen Scherer – Research and Planning Directorate, Manitoba Department of Health (formerly M.A.R.N. Standards Consultant)
Dr. Arthur Schwartz – University of Manitoba
Dr. Doug Yeo – University of British Columbia
Ms. Diane Girardin – Private Practice
Dr. Bill Bedford – Health and Welfare Canada
Ms. Sharon Amer – Health and Welfare Canada

In concluding her report, Brownstone recommended that the CDHA establish a task force to:

- investigate theories/methods of assuring dental hygiene competence;
- develop a national model of competence assurance for clinical dental hygiene practice;
- investigate resource implications of a competence assurance program (e.g. financial costs, personnel);
- determine the responsible body for the implementation and maintenance of a competence assurance program (e.g. CDHA or provincial dental hygiene organizations);
- investigate standards and competence/quality assurance in other dental hygiene settings (e.g. public health institutions);
- correspond with those dental hygiene associations who have developed competence assurance programs to learn of their successes/failures in implementing competence assurance programs; and
- develop a long range plan for a quality assurance system for dental hygiene in Canada.

On the basis of Brownstone's report, the board moved to establish such a task force.

In other action, the board moved to—

- direct the long range/financial planning committee to develop a survey methodology which would gather information about why dental hygienists do or do not join CDHA
- investigate group automobile and home insurance as a benefit of CDHA membership
- allocate \$300 in travel expenses to Mary Pelletier, immediate past-president, to continue improving communications with the Quebec Dental Hygienists' Association and the Professional Corporation of Dental Hygienists
- adopt the following definitions of supervision:

Direct Supervision

A dentist diagnoses and prescribes treatment for a patient and delegates procedures to the hygienist. A dentist is physically available while the dental hygienist delivers treatment.

Indirect Supervision

A dentist diagnoses and prescribes treatment for a patient and delegates procedures to the hygienist. A dentist need not be physically present while the dental hygienist delivers treatment.

General Supervision

A dentist is cognizant of dental hygiene procedures being performed but has not necessarily made a diagnosis.

- publish the criteria for letters to

the editor in the Journal once a year

- thank Debbie Lang, Corporate Relations Officer, Ailsa Wood, Bookkeeper, and Stephanie Nagle, Editor for carrying out their jobs beyond the call of duty

- investigate the feasibility of organizing a group-rate tour for members to attend the International Symposium on Dental Hygiene in Oslo, June 26-29, 1986
- submit an invitation to sponsor the 1989 International Symposium on Dental Hygiene
- thank Wilma Motley for her continuous leadership as Chairperson of the International Liaison Committee on Dental Hygiene
- strike an ad hoc committee to open formal discussions with CFDE about establishing a workable and mutually beneficial relationship for providing educational, scholarship, and research programs to dental hygienists seeking further education
- appoint Dr. Thomas Howley, University of Toronto, as consultant to the CDHA Data Bank Representative
- allocate \$5,000 to support a \$20,000 project to define baseline competencies for national dental hygiene practice (CDA has requested CDHA to define these competencies which will serve as a basis for curriculum development, program review, accreditation, and licensing requirements)
- strike an ad hoc committee to investigate restructuring the board of directors
- recognize the American National Board Certificate, valid within the preceding five years, as a measure of competence in dental hygiene theory
- collect a bank of objective questions from educational programs which will become the basis of a Canadian National Board Exam
- direct the Membership Promotion Coordinator to investigate a replacement for the pocket planner for the 1985 membership campaign
- accept the CDA's offer to publish the revised "Careers in Dental Hygiene" pamphlet
- investigate producing a video cassette to promote membership in CDHA
- direct the Community Health Chairperson to revise the proposal for an oral health resource for the elderly and resubmit it for funding by the government's Health Promotion Contribution Program
- allocate \$700 for preparing and presenting the CDHA Brief to the Federal Provincial Advisory Committee on Health Manpower
- conduct an annual employee review of all paid CDHA employees. □

The Canadian Dental Hygienists' Association National Convention

PRE-CONVENTION PROGRAM

Friday, September 27, 1985

9:00 a.m.-5:00 p.m. CDHA Board of Directors Annual Meeting / Workshop

Saturday, September 28, 1985

9:00 a.m.-5 p.m. CDHA Board of Directors Annual Meeting / Workshop Continued

Special Event Whitewater Rafting on the Ottawa River for the early arrivals (Extra Ticket Item)

7:00 p.m.-11:00 p.m. A Fondue Extravaganza in the Bytown Market

Sunday, September 29, 1985

9:00 a.m. Fun Run-Walk at the National Capital Commission's Arboretum
Pre-Registration required, T-Shirt included

8:30 a.m.-3:00 p.m. CDHA Board of Directors Annual Meeting Continued

8:30 a.m.-3:00 p.m. Community Dental Health Hygienists Workshop

Noon-6:00 p.m. Registration at the Chateau Laurier

4:00 p.m.-6:00 p.m. Ottawa River Cruise on the Sea Prince II
Appetizers, Wine and Music for first 200 pre-registrants
Sponsored by F.W. Horner Co.
(Jordan Toothbrush)

7:00 p.m.-11 p.m. Welcome Party - Foyer of the Capital Congress Centre
(CDA, CDHA, CDAA)

***CONVENTION PROGRAM**

Monday, September 30, 1985

8:00 a.m.-10:00 a.m. Daily Registration at the Chateau Laurier

9:00 a.m.-Noon "Motivation and Changing Health Habits"
Marjorie Kort, RN, BScN

10:00 a.m.-10:15 a.m. Nutrition Break

Noon-2:00 p.m. President's Luncheon at the Chateau Laurier

2:00 p.m.-5:00 p.m. "Memory and Recall", Ron Perkio

8:00 p.m.-Midnight "Dancing - Casino - Cabaret
in the Ballroom of the Chateau Laurier

Tuesday, October 1, 1985

9:00 a.m.-6:00 p.m. Craft Room, Westin Hotel,
Providence II, featuring
Ottawa Valley Crafts

8:00 a.m.-10:00 a.m. Daily Registration at the Chateau Laurier

9:00 a.m.-10:30 a.m. "Keeping Your Patients Caries-Free"
Dr. Herschel Horowitz, Mrs. Alice Horowitz

10:30 a.m.-10:45 a.m. Nutrition Break

10:45 a.m.-Noon "Keeping Your Patients Caries-Free"
Continued

Noon-1:30 p.m. Luncheon and Special Presentation

1:45 p.m.-3:15 p.m. Report from Working Group on Dental Hygiene
and Developing a Clinical Practice,
Marnie Forgay, Kate Macdonald
Pat Johnson, Dr. Roger Ellis

3:30 p.m.-5:00 p.m. Standards for Canadian Dental Hygienists
Sheryl Feller, RDH, BA, MBA

6:00 p.m.-Midnight "Bytown Bash"
CSA, CDHA, CDNAA
at the Palais des Congrès, Hull, P.Q.



OTTAWA

A CAPITAL PLACE TO MEET

September 29 to October 2

1985

Ottawa, Ontario, Canada

L'Association Canadienne Des Hygienistes Dentaires

Congres National

Wednesday, October 2, 1985

- 8:00 a.m.-10:00 a.m. Daily Registration at the Chateau Laurier
- 9:30 a.m.-10:30 a.m. Brunch, Sponsored by Colgate-Palmolive
- 10:30 a.m.-11:15 a.m. Dental Hygiene Papers
Barbara Zier and Charla Lautar-Lemay
- 11:30 a.m.-1:00 p.m. Panel Discussion
"How Can We Meet the Needs of the Geriatric and Handicapped Patient in Canada?"
Panelists: Alice Horowitz, Pat Johnson, Jenny Thomas, Dr. Roger Ellis

CDA & CDAA Open Sessions

Monday, 9-12 Noon

- Lecture Room A Dr. T.L. Snyder
"Should There be a Computer in your Practice?"
- Lecture Room B Royal College Symposium
"Facial Pain Mechanisms"
(Limited Space Available)
- Lecture Room C Dr. E.H. Williamson, Grieve Memorial Lecture
"Diagnosis, Prevention, and Management of TMJ Dysfunction in Orthodontics"
(Limited Space Available)

Monday 2-5

- Lecture Room A Royal College Symposium
"Facial Pain Management of Chronic Pain"
(Limited Space Available)
- Lecture Room B Graduate Student Presentations
- Lecture Room C Dr. Roger K. Hall
"Pedodontics"

Tuesday 9-12 Noon

- Lecture Room A Dr. R.E. Goldstein
"The Esthetic Approach to Restorative Dentistry"
- Lecture Room B Panel Discussion on Internal Medicine with
Dr. Williams and Dr. A.L. Weinberg
- Lecture Room C Dr. C.A. McCulluch
"Periodontal Therapy in the 1990s"

Tuesday 2-5

- Lecture Room A Dr. R.E. Goldstein
See Morning
- Lecture Room B Dr. J.J. Pinborg
"Oral Medicine and Pathology"
- Lecture Room C Dr. A.S.T. Franks
"Prosthetics"

Wednesday 9-12 Noon

- Lecture Room A Dr. A.S.T. Franks
"Geriatric Dentistry"
- Lecture Room B Symposium on Oral Cancer
Dr. J.J. Pinborg, Dr. J. Eapen, Dr. J. Epstein
- Lecture Room C 9-11 a.m., Dr. W.J. Dunn:
"Dental Law"
11-12 Noon, Mr. J.B. Nagy:
"The Four Dimensional Tooth Colouring System"

Wednesday 2-5 p.m.

- Lecture Room A Panel on Ridge Augmentations
with Dr. P.J. Boyne and Dr. G.A. Zarb
- Lecture Room B Symposium on Oral Cancer
with Mrs. J. Thomas, Dr. G. Bradley,
Dr. P. Stevenson-Moore, Dr. J.H.P. Main
- Lecture Room C "Update on Endodontics"
Dr. B.H. Dolansky

*French translation services available



REGISTRATION FORM

CDHA NATIONAL CONVENTION - "A CAPITAL PLACE TO MEET"
SEPTEMBER 29TH - OCTOBER 2ND, 1985

NAME _____ CDHA MEMBER: YES ☐ NO ☐
ADDRESS _____
CITY/PROVINCE _____ POSTAL CODE _____
TELEPHONE: RES.() _____ OFF.() _____

	Before August 1st	After August 1st	Fee
CDHA MEMBER/	☐ 3 days \$110.00	☐ 3 days \$120.00	
ADHA MEMBER	☐ Single day \$ 50.00	☐ Single day \$ 60.00	
	____ Monday ____ Tuesday ____ Wednesday		\$ _____

Includes access to CDHA and general Scientific Sessions, Exhibits/Complimentary Sunday harbour cruise (for first 200 pre-registrants only). Registration party, Monday lunch, CDHA Monday night "Dancing-Casino-Cabaret". Tuesday luncheon, Tuesday night "Bytown Bash". Wednesday "Brunch and Learn".

	Before August 1st	After August 1st	Fee
NON-MEMBERS	☐ 3 days \$220.00	☐ 3 days \$240.00	
OF CDHA	☐ Single day \$100.00	☐ Single day \$120.00	
	____ Monday ____ Tuesday ____ Wednesday		\$ _____

Includes same as above.

STUDENT MEMBERS Scientific Program ... Complimentary
☐ President's Luncheon, Mon. Sept. 26 \$15.00 \$ _____

Includes access to scientific sessions and exhibits.

SPOUSES/GUESTS ☐ 3 days \$50.00 \$ _____

Includes access to all Scientific Sessions and Exhibits, Sunday Ottawa River cruise (for pre-registrants only), Registration party, Monday luncheon, CDHA Monday night "Dancing-Casino-Cabaret".

ADDITIONAL TICKETS:

- White Water Rafting - Saturday, September 28th, 1985.
- SEE REGISTRATION PACKAGE -
 - CDA Sunday night "Welcome Party" ☐ \$20.00 Each No. of Tickets _____ \$ _____
 - CDHA Monday night "Dancing-Casino-Cabaret" ☐ \$10.00 Each No. of Tickets _____ \$ _____
 - CDA Tuesday night "Bytown Bash" ☐ \$40.00 Each No. of Tickets _____ \$ _____
- TOTAL \$ _____

HOTEL RESERVATION REQUEST FORM

NAME _____ HYGIENIST ☐
ADDRESS _____
CITY/PROVINCE _____ POSTAL CODE _____
TELEPHONE: RES.() _____ OFF.() _____

NAME(S) OF OTHER OCCUPANT(S) _____

TYPE OF ROOM: SINGLE ☐ TWIN ☐ DOUBLE ☐ TRIPLE ☐

— \$75.00 Deposit Required — Payable to CDA Housing Bureau

INDICATE CHOICE OF 3 HOTELS IN ORDER OF PREFERENCE

- | | |
|--|-------------------------------------|
| ____ Chateau Laurier (\$85./\$95.) | ____ Holiday Inn (\$80./\$90.) |
| ____ Westin (\$89./\$95.) | ____ Ottawa Centre |
| ____ Skyline (\$80./\$90.) | ____ Roxborough Hotel (\$57./\$62.) |
| ____ Plaza de la Chaudiere-Hull (\$90./\$105.) | ____ Holiday Inn (\$50./\$55.) |
| ____ Four Seasons (\$85./\$95.) | ____ Market Square |
| ____ Delta (\$80./\$80.) | ____ Lord Elgin (\$50./\$55.) |

ARRIVAL DATE: _____ TIME: _____ DEPARTURE DATE: _____

GUARANTEED: YES ☐ NO ☐ Deadline for Registration AUGUST 28th, 1985

SEND HOTEL RESERVATION FORM ONLY TO:

THE 1985 CDHA OTTAWA CONVENTION
c/o MS. MARGOT RAYBURN
HOUSING CO-ORDINATOR
222 QUEEN ST., 7TH FLOOR
OTTAWA, ONT. K1P 5Y9 (613) 237-5150

PRE-REGISTRATION DEADLINE
AUGUST 1st, 1985



Send completed registration form and cheque payable to the Canadian Dental Association to:

CANADIAN DENTAL ASSOCIATION
1815 ALTA VISTA DRIVE
OTTAWA, ONTARIO K1G 346

Cancellation Policy:

Full registration refundable up to August 1, 1985, 75% refundable after that date.

Non-members may contact
CANADIAN DENTAL HYGIENISTS'
ASSOCIATION

1320 Carline Avenue
Ottawa, Ontario K1Z 7K9
(613) 728-8730

concerning membership with the
CDHA.

Sponsored by



CDHA FUN RUN/WALK

SUNDAY, SEPTEMBER 29, 1985

ARBORETUM

9:00 A.M.

ENTRY DEADLINE

SEPTEMBER 6, 1985

ENTRY FEE - \$8.00/PERSON

(Includes fun run T-shirt)

NAME(S) _____

ADDRESS _____

T-SHIRT SIZE:

MEN: SMALL ☐ MEDIUM ☐ LARGE ☐

LADIES: SMALL ☐ MEDIUM ☐ LARGE ☐

Send completed form and cheque
payable to the Canadian Dental Association to:

CANADIAN DENTAL ASSOCIATION
1815 ALTA VISTA DRIVE
OTTAWA, ONTARIO K1G 346

self assessment test

Instrumentation

1. What determines the areas and tooth surfaces to which a scaling instrument can be applied?
 - a) angulation and flexibility of the blade
 - b) angulation and flexibility of the shank
 - c) angulation and length of the blade
 - d) angulation and length of the shank
2. The three phases of instrumentation stroke, in the proper sequence, are:
 - a) application, angulation, activation
 - b) angulation, application, activation
 - c) activation, angulation, application
 - d) application, activation, angulation
3. When an instrument is activated in what is referred to as the "working stroke", in which of the following ways is it employed?
 - a) the instrument is pushed gently toward the gingiva
 - b) pressure is exerted as the instrument is pulled away from the epithelial attachment and gingiva
 - c) the instrument is directed so that the force of the stroke is in an apical direction
 - d) the instrument is pushed to the depth of the sulcus to engage the calculus
4. The following is true of the mouth mirror:
 - a) reflects image
 - b) reflects light
 - c) used for retraction
 - d) used with a fulcrum
 - e) all of the above
5. The following is true of the fulcrum
 - a) aids in controlling instrumentation
 - b) should be established on a tooth as close as possible to the tooth being scaled
 - c) should be established on same arch as is being worked on
 - d) should not be established on soft tissue
 - e) all of the above
6. A very tight instrument grasp will:
 - a) increase tactile sensitivity
 - b) decrease tactile sensitivity
 - c) prevent muscle fatigue in fingers
 - d) increase instrument maneuverability
 - e) decrease the risk of trauma to the tissues
7. During activation of a scaler, the facial surface of the bade and the tooth surface should form an angle of:
 - a) more than 15°, but less than 30°
 - b) more than 30°, but less than 60°
 - c) more than 45°, but less than 90°
 - d) more than 90°, but less than 120°
 - e) more than 120°, but less than 180°
8. The sickle scaler is used primarily for:
 - a) root planing
 - b) removing heavy deposits of calculus locted supramarginally of submarginally to a slight depth
 - c) removing stain from smooth surfaces of teeth
 - d) removing deposits of calculus located deep with a periodontal pocket (ie: depths of greater than 4mm)
 - e) all of the above
9. In testing an instrument for sharpness, one may assume the balde is sharp when
 - a) the blade "grips" the test stick as it is drawn along the stick
 - b) the cutting edge acts like a mirror and reflects light
 - c) the blade "slides" over the plastic when adapted to the stick
 - d) the blade is wire edged
 - e) the cutting edge is rounded and has thickness
10. If an instrument gets dull during scaling, it is recommended that you:
 - a) sharpen the instrumentat chairside using a sterile stone and lubricant
 - b) apply more pressure and crush the calculus deposit in order to remove it
 - c) select an instrument of another kind and use it to complete the scaling
 - d) change the angulation of the blade

References:

Nield, J.S. and O'Connor, G.H. *Fundamentals of Dental Hygiene Instrumentation*. Toronto: W.B. Saunders Co. (1983)

Prof. Bonnie J. Trodden, R.D.H., M.A.
School of Dental Hygiene
University of Manitoba

Answers: to Self-Assessment Test
1. d 2. a 3. b 4. e 5. e
6. b 7. c 8. b 9. a 10. a

Mouth Protection: The Healthy Choice

Frances R. Cotton, Dip. D.H., B. Sc.D.

The concept of health is all around us. The media constantly bombards the public with messages of the young, trim, athletic body. Billboards scream at us with slogans of the "in" lifestyle, the professional athlete is today's hero. Our culture has become mesmerized by athletics. The hockey forward, the football quarterback, the basketball centre are the gods of our sports-minded generation. Sport, when practised within the rules and when approached with common sense, can be a rewarding, complimentary portion of a person's life. However, with participation comes risks, and with risks come responsibility.

The mouth is the most vulnerable area of the body during sports activity^{15,20} and the least protected. Within the realm of professional sport, only boxing enforces mandatory mouth protectors. What message does this impart to the young aspiring athletes – that it is manly to lose front teeth, or to experience a concussion? The fact is, that nearly all mouth injuries can be prevented by wearing an inexpensive yet effective intra-oral mouth protector.^{4,10,20}

Sports and Injury

Mouthguards, as mouth protectors are commonly referred to in North America, have proven effective in amateur football in the United States.⁴ A study conducted in Wisconsin showed that in 1954 very few high school football players wore face protectors and even fewer wore internal mouthguards.^{4,19} By 1955, the face bar, as originally designed by Paul Brown, coach of the Cleveland Browns, became official protective equipment in the National Football League.¹⁹ Facial injuries were reduced and dental injuries dropped slightly (Table 1). As time progressed the value of internal mouthguards became evident. In 1962 the United States High School and Junior College Football Association required that each player wear a tooth and mouth protector.⁴ By 1966 only 115 facial and dental injuries were reported for 34,298

players. A dramatic injury reduction of 90% since the introduction of face protection. While there is no argument that face guards were a significant factor in this study, closer examination of the data reveals that the most dramatic reduction in injuries came with the combination of both face mask and intra-oral mouthguards.^{4,19} Encouraged by the impressive results in the junior leagues, the National Collegiate Athletic Association adopted the mandatory mouth protector rule in 1973. Professional football leagues have yet to enforce the use of this successful preventive aid.

TABLE I
Effect of Face Mask and Dental Guards on Injuries*
(as reported in Ryan)¹⁹

Year	Protection	Players	Facial and dental injuries	Incidence/100
1954	No face masks or dental guards	15,714	356	2.26
1955	Face masks introduced	15,714	288	1.83
1959	Face masks mandatory; few dental guards	22,969	275	1.20
1963	Face masks and dental guards mandatory	30,357	143	0.47
1966	Face masks and dental guards mandatory	34,298	115	0.33

* Wisconsin Interscholastic Athletic Association "Football Mask and Dental Guard Study" Wisconsin Interscholastic Athletic Bulletin p.36 Stevens Point, Wisconsin, 1967.

Hockey Night in Canada, as shown on CBC, was for many years known for toothless grins. The professional hockey player would lisp between periods then, through the miracles of modern dentistry, showed a near perfect smile to his adoring fans. Fortunately, those days may soon be history as our modern superstars learn about preventive equipment at the junior level and take those habits with them to the big leagues. Hockey is a Canadian sport and it is only fitting that much of the protective face and head

gear currently used was developed in this country. Sports trivia fans are aware that Jacques Plante of the Montreal Canadians was the first goalie to wear a custom fitted face protector – now an essential piece of the goalie's equipment.²¹ But are sports fans aware that Dr. Arthur W.S. Wood, an Ontario paedodontist, has spent nearly 33 years developing, producing, and testing protective face equipment and that Dr. Wood was recently inducted into the Hockey Hall of Fame and is known as "Father of the Mouthguard in Canada"?¹⁵

Hockey has a low overall injury rate compared to many other sports unless the accident rate above the shoulders is considered separately.^{4,7,15,20,21} (Table 11) The head and face consistently appear as the most commonly injured sites in hockey, yet the irony of these statistics is that the majority of this trauma can be prevented.⁴ A high stick, a wandering elbow, a flying puck, a bash against the boards are all dangerous to the exposed head and face. Sportsmedicine advocates full and mandatory protection of the head, face, and mouth for hockey players of all ages.⁷ Both the Canadian Amateur Hockey Association (C.A.H.A.) and the Amateur Hockey Association of the United States (A.H.A.) have invoked mandatory facial and mouth protection for all players 16 years of age and under.^{1,7} This protective equipment must consist of either a full face mask or an eye-mask with an external mouthpiece. Players under 13 often wear face masks with external mouthpieces attached to the chin strap, however, while this type of protector guards against facial lacerations and broken teeth, it does not guard against concussion.^{1, 21}

TABLE II

Average Annual Rate (cases/100 athletes) of Facial Injuries in Selected Collegiate Sports by Category of Injury, 1975-78.

	Eye Orbit	Maxillo-Facial	Mouth Teeth	TOTAL
Ice Hockey	3.8	14.3	9.3	27.4
Wrestling	2.8	2.9	2.0	7.7
Basketball	1.3	2.1	2.7	6.1
Field Hockey (W)	1.1	1.7	2.4	5.2
Basketball (W)	1.4	1.0	2.1	4.5
Football, Spring	1.1	2.1	1.1	4.3
Soccer	0.3	1.1	1.1	2.5
Football, Fall	0.3	1.2	0.5	2.0

from National Athletic Injury/Illness Reporting System, The Pennsylvania State University, 1979.

Hockey and football are the two reigning contact sports in North America, but in other parts of the world soccer and rugby are played extensively. Studies in South Africa and New Zealand have indicated that there is a 33-56% chance of a facial injury around the oral cavity in any athlete's career^{6,16} and that there is a direct relationship between the inexperience of a player and the number of injuries sustained.⁶ Consequently, mouthguards are recommended for all amateur and professional soccer and rugby players.^{6,16}

Classification of Injury

Intra-oral mouthguards protect against three basic types of injuries — 1) trauma to the soft tissue (lips,

cheeks, gums); 2) trauma to the hard tissue (teeth, bone); and 3) concussion (displacement, or shock via the temporomandibular joint [TMJ]). Injuries to the teeth are classified as either direct or indirect.^{9,21} Direct injuries are the most common and occur when an object such as a hockey stick makes forceful contact with the tooth. Indirect injuries occur with sudden forceful accidental closure of the mandible which occludes and fractures the tooth tissue.⁹ This happens where falls are frequent.²¹ Teeth with large restorations and/or teeth which have been endodontically treated are most vulnerable. Protruding anterior teeth are the most likely to be fractured by direct means while the normally occluded dentition is more susceptible to indirect injury. Primary teeth require as much preventive thought as do the permanent teeth, since a traumatized primary dentition may lead to damage of the underlying permanent teeth.

Types of Mouthguards

Intra-oral mouthguards usually only fit over the maxillary teeth (only in prominent cases of a protruding mandible is the guard placed over the mandibular teeth)⁶ and are the most effective and efficient means of dental protection since they are relatively invisible and are suitable for all sports.²⁰ Mouthguards work because they:

- 1) spread the force of the blow over all the teeth covered by the mouthguard;
- 2) stop violent contact of the upper and lower teeth;
- 3) keep lips away from the teeth; and
- 4) hold jaws apart acting as shock absorbers and preventing upward and backward displacement of the condyles in their articulating fossae, thus preventing concussion.²⁰

The three types of mouthguards available are stock, mouth-formed, and custom-made. Custom-made protectors are usually fabricated from a thermoplastic sheet (polyvinylacetate-polyethylene)³ on a stone model that duplicates the user's teeth.¹⁷ The guard is inserted and trimmed for maximum comfort. (Appendix I) Mouth-formed protectors consist of a pre-fabricated thermoplastic shell with a resin filler that is molded against the teeth by the athlete. The stock-type is prefabricated and ready to insert. Both the stock and mouth-formed guards are available in sporting goods stores. The ideal mouthguard should combine maximum prevention with maximum comfort.²⁰ The stock variety, which is often used in boxing, is unsuitable for high speed, high contact sports as the guard must be held in place by occluding the teeth thus making breathing and speech difficult.¹ There is also concern that a stock protector may be unsafe as a case was reported in Britain where a stock protector was displaced during a sporting accident. The guard failed to prevent fracture of the teeth and slipped back into the throat occluding the airway. Fortunately, a spectator saved the victim from asphyxiation.²² Mouth-formed protectors provide better retention than the stock-type but may be uncomfortable as they are available only in three sizes and the human mouth affords infinite variety.

The custom-made mouthguard is definitely the preventive unit of choice. This guard is fabricated to the exact dimensions of the individual's oral cavity and provides the closest adaptation to the teeth as possible. In order to facilitate speech, comfort, and breathing, the guard should not extend past the distal of the first molars nor onto the soft palate.²⁰ The thermoplastic resins used are translucent, tear resistant, tasteless, odorless, uniform in thickness, resilient, easily adapted, and low in cost.¹⁸ Consequently, the custom-made protector should:

- 1) conform to the contour of the teeth and alveolar process;
- 2) be thin enough to enable easy breathing and speaking, but thick enough to cushion an impact;
- 3) be tough enough to resist occlusal forces;
- 4) be pliable, but not easily dislodged;
- 5) be easy to clean; and
- 6) be comfortable to the wearer.¹⁰

A stock or mouth-formed protector should never be used over dental appliances or orthodontic banding, without first consulting a dental practitioner.²⁰

Changes in Mouthguard Design

If the dental practitioner indicates that it is desirable to open the athlete's vertical dimension, an extra layer of thermoplastic resin may be heated and adapted to the entire surface of the guard.³ The principle of vertical dimension is being employed by the proponents of the mandibular orthopedic repositioning device (MORA)^{8,13,14} advertised as the mouthguard with a difference. The appliance fits over the mandibular teeth, not the maxillary, and the MORA is credited with opening the bite, thus alleviating stress thereby increasing upper body strength. The protective mouthguard may not be appealing to many an athlete, but the promise of increased performance certainly is.¹⁴ To date there has been no documented scientific data to prove or disprove the MORA concept. Skeptics consider the MORA a placebo; proponents consider it the newest miracle discovery.⁸ If the publicity surrounding the MORA and the subsequent use of protective mouthguards by professional athletes assists in bringing the preventive message to the younger generation, then perhaps the introduction of the MORA was beneficial in spite of the critics.

Compliance With Recommended Use of Mouthguards

The reader may wonder why, if custom-fitted mouth protectors have proven effective, more athletes do not take advantage of this simple piece of preventive equipment. The answer appears to be quite complex. Many variables influence whether an individual chooses to wear one.¹⁰ As mentioned previously, in recent years professional hockey and football players have shaken the concept that protective equipment is not masculine.¹⁵ No longer do professional athletes wear their edentulous grins like badges of honour. Yet many players who were accustomed to wearing mouthguards in high school and college stop wearing them at higher levels of competition.¹² Reasons given for not choosing to wear mouthguards range from denial of injury possibility,¹¹ to discomfort when

APPENDIX 1

Custom-Made Mouth Protectors

- Composition**
- 1) Poly (vinyl acetate-ethylene) copolymer
 - 2) additives - antioxidants and stabilizers
 - fillers
 - plasticizers
 - lubricants
 - colourants
 - flavouring agents^{17,18}

Fabrication

1. Make an alginate (irreversible hydrocolloid) impression of the maxillary arch.
2. Pour impression immediately in stone and identify model with athlete's name.
3. Drill a hole or several holes in the palate of the stone model.
4. Place model on the vacuum machine 'Stay-Vac', 'Vacu-Dent', or on home-made vacuum machine.
5. The machine heats the thermoplastic mouthguard material centered over the model and pulls the plastic tightly over the model.
6. Cool and chill thoroughly before removing plastic.
7. Remove mouthguard from the model and trim 1/8 inch short of the labial fold with a curved pair of surgical scissors — Make notches smooth to allow space for the buccal and labial frenum areas.
8. Smooth edges with an alcohol torch.
9. Only a small percentage of mouthguards will need to be occluded; if so, warm the guard, place in the athlete's mouth, gently close, cool.
10. Instruct athlete in care and storage.³

wearing.^{1,6,12,16,18} Many athletes fail to understand the severity of potential head and face injury and that mouthguards not only protect against fractured teeth, but also prevent concussion.^{11,12,20} The discomfort factor is highest with the stock and mouth-formed varieties of mouthguards, but a poorly fitted custom-made guard will also prove uncomfortable. An athlete with a hypersensitive palate may have trouble adjusting to a guard, but with conscientious trimming and a prior rinse of cold water, the guard can be made tolerable.¹ The mixed dentition stage creates fitting problems, however, a little sticky wax in the edentulous areas will further customize the appliance.⁶ Difficulty with speech and breathing are also frequent complaints but mostly with the non-customized appliance.^{6,16} Lack of individualization has accounted for drop-out rates for those who were fitted at community clinics.¹⁶ Perhaps the fit was not as customized as expected.

Throughout the literature on sports related dental injuries, one main theme runs true and strong. If the coach wears a mouthguard and enforces its' use during practice sessions as well as during games, the acceptance rate of the players is almost 100% and the dental/facial injuries are as low as 1%.^{1,2,6,11,16,20} A player who realizes that participation in a game or practice will not be permitted without his mouthguard will soon learn to wear it.¹ As in other areas of life, children adapt more readily than adults.⁶ Consequently, the time to enforce preventive equipment use is the first

day of organized sport thus instilling a habit that will last a lifetime. Where mouthguards are mandatory, lawyers will check for evidence of their use if there is an accident. Failure to comply and failure of enforcement could result in charges of negligence.²

Mouthguard Care

As with any item of equipment, care is necessary for maximum wear and comfort. Breakdown of a mouth protector usually results from one of three causes: biting through; tearing; or a general deteriorating through chewing the protector. The softer the protector, the less likely it is to be chewed. Tearing may occur during a blow to the jaw; therefore, protectors should be evaluated periodically for breakdown and wear. The mode of storage will also determine longevity and accurate fit. After each use the athlete should:

- 1) rinse the protector with cold water;
- 2) occasionally scrub with soap solution;
- 3) not use an abrasive toothpaste;
- 4) not use alcohol or denture cleansers; and
- 5) store the protector on the model or in the container provided.

Mouthguards can be identified by use of a laundry pencil or by use of a Denture I.D. Kit.³

Education

Physical education texts are devoid of comment on intra-oral mouth protection. Teachers and especially coaches have a responsibility to see that each child plays with the correct equipment and that all safety rules are enforced at all times. Concurrently, the dental profession must also make it known that they are willing to assist in the fabrication of low-cost, well fitting, customized mouthguards. The public at large should be provided with the appropriate information on the consequences of dento-facial trauma. A broken bone can mend. A broken tooth must be repaired. Complaints of the expense of dental services are heard often, yet prevention is so cheap. It just takes effort. Professional athletes who do wear mouthguards should sing their praises. Television cameras could zoom in on the hero leaving the bench and inserting his guard. This type of advertising is

inexpensive, yet could be very effective. Commercials for the good life need only to show the rodeo star placing his mouthguard before the ride. The subtle message works best.

The first step in prevention is education. One day the athlete will realize that his mouthguard is just as important as his athletic supporter, his shin guards, or his elbow pads. Teeth were meant to last a lifetime. Through them we discuss our healthy lifestyle, we monitor our nutrition, and we demonstrate affection. Do they not deserve more than lip service by way of protection? □

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Call for Craft Booths

The CDHA convention organizing committee invites individuals, local societies, and provincial societies to display and/or sell their crafts and fund-raising projects in the Craft Room at the time of the CDHA National Convention in Ottawa Sept. 29 — Oct. 2, 1985.

Contact Ninfa Nicol, 3 Royal Birkdale Green, R.R. 7, Nepean, Ontario K2H 7V2. (613) 825-4448.

Call for Class Reunions

The CDHA convention organizing committee invites dental hygiene classes to hold their reunion in conjunction with the 1985 convention, Sept. 29 — Oct. 2 in Ottawa.

Reunion Co-ordinator is Pat Fortier, 26 Duncan St., Carleton Place, Ontario K7C 3Y9. (613) 257-7665 or (613) 257-3173.

Dental Hygiene Quality Assurance: Definitions, Issues, and Directions For Canada

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Larry W. Chambers, B.A. (Hons.), M.Sc., Ph.D.,
Sheryl J. Feller, Dip.D.H., B.A., M.B.A.
and F. Kathleen Scherer, B.Sc.N., M.H.Sc.

In the past decade, many professional groups have been working toward the development of quality assurance programs. In Canada, the dental hygiene profession is now taking up the challenge. In a 1984 paper presented to the Board of Directors of the Canadian Dental Hygienists' Association, Ellen Brownstone (chair of the C.D.H.A. Ad Hoc Committee on Quality and Competence Assurance) discussed why dental hygiene should become involved in quality assurance programs.¹ The fundamental reason is that such an involvement demonstrates dental hygienists' commitment to providing quality care and their willingness to be held accountable for the services they provide. This commitment reflects a sensitivity for the needs and concerns of consumers of preventive dental services. Quality assurance programs will contribute ongoing mechanisms for assessing and improving the quality of dental hygiene services. Further, the development of quality and competence assurance programs by dental hygienists for dental hygienists will demonstrate that dental hygiene is indeed growing and maturing as a profession.

This paper will: (1) clarify some of the terminology in the quality assurance literature, (2) discuss some of the issues associated with quality assurance endeavours, and (3) suggest directions for dental hygiene quality assurance programs in Canada.

Definitions

One of the basic issues in the area of quality assurance is the confusion which surrounds much of

the terminology. Not only are there many technical terms which are unfamiliar to most dental hygienists, but many of the key terms are defined and used differently by different researchers and authors. This section describes the critical terms as they will be used in the development of clinical practice standards for Canadian dental hygienists.

Problems arise even at the fundamental level of defining quality of care. One definition that has withstood the test of time was put forth by Lee and Jones in 1933.² They stated that: "Quality of medical (dental) care is the kind of medicine (dentistry) practiced and taught by the recognized medical (dental) profession at a time or period of social, cultural and professional development in a community or population group". Bailit³ pointed out that the basic reason this definition is still applicable is its recognition that acceptable quality is a function of social, cultural and professional environments. Further, the definition acknowledges that quality criteria are not stagnant but change with advances in dental technology. For example, many more steps and precautions are taken in dental hygiene operatories today to prevent disease transmission than ten years ago.

There are various dimensions of quality that can be assessed. In the classical paper on quality of medical care, Donabedian⁴ stated that the quality of care can be assessed from three different but related perspectives: the structure, the process, and the outcome of care. The first element, the structure of care, includes the qualifications of the health care

providers as well as the physical facilities or equipment available. The second facet of quality, process, defines what the health care provider does or the skill with which the care is provided. Finally, the outcome of care focuses on the final product or results of the care. In the medical model, outcome is most often the recovery of the patient. With respect to dental health care, improvement in the status of an individual's oral health is the desired outcome. In order to understand the concept of quality care, it is important that the professional understands the definitions of these three dimensions.

In order to conduct any evaluation, the evaluator must have criteria and standards to use in the evaluation process. The terms "criteria" and "standards" are the chief sources of confusion in the quality assurance literature. There are many slightly but significantly different definitions. The definitions which will be used in the development of clinical practice standards for Canadian dental hygienists are as follows: criterion — "a variable believed or known to be a relevant indicator of the quality of care" and standard — "the desired and achievable level or range of performance with which actual performance is compared."⁵ For example, a structure criterion might be: "the dental hygienist's employment situation provides facilities, equipment, and supplies which allow the dental hygienist to prevent disease transmission." The related standards would then outline what facilities, equipment, and supplies are needed for the dental hygienist to adequately prevent disease transmission. A process criterion might be: "the dental hygienist uses aseptic techniques to prevent disease transmission." Standards related to this criterion would then describe requirements for: current medical histories, visual assessment for patient lesions, handwashing, use of rubber gloves, finger cots, face masks and safety glasses, sterilization and disinfection procedures, use of disposable supplies, and other processes related to the prevention of disease transmission.

The terms quality assessment and quality assurance are often used synonymously. However, a distinction should be made between these terms.⁶ Quality assessment is the measurement of quality against defined criteria and standards and involves: (1) selecting a topic, (2) establishing criteria and standards, (3) making the assessment, and (4) deciding whether the quality is adequate. Quality assurance, however, is "the assessment of measurement of the quality of care and the implementation of any changes to either maintain or improve the quality of care."⁶ The additional steps in a quality assurance process are: (5) developing a plan to correct deficiencies, (6) implementing the plan, (7) reassessing the quality, and (8) deciding whether the quality is now adequate. Quality assurance, therefore, involves deficiency correction and reassessment and is an ongoing process.

Competence assurance is one important aspect of quality assurance which focuses upon the practitioner's ability to perform the technical tasks skillfully. That is, competence assurance programs deal with the process dimension of quality care.

Issues

It is important to understand the issues and controversies surrounding quality assurance before

attempting to develop quality assurance programs for dental hygiene. This section will describe the central issues in this area.

What to Assess

The outcome of care has been the most frequently used indicator of the quality of medical care. However, many questions have arisen as to the validity of outcome evaluation with respect to dental health care as there are many circumstances other than the care provided that can have a direct effect on the outcome. For example, in a case of a patient with periodontal disease, a desired outcome of care would be the return of optimal gingival health. In this case, the outcome of care is highly dependent upon the patient's compliance to the prescribed oral hygiene program.

A similar controversy exists as to whether evaluation which focuses solely on the process is any more worthwhile. Here the question is: "what do you assess that is related to the process?" McAuliffe⁷ summarized the criticisms of process evaluation. Process evaluation is seen as "impractical because criteria are difficult to develop and cumbersome to apply and often (process evaluation is) invalid since it covers limited aspects of care. As well many processes have not been proven effective and data sources contain errors."

A third approach to quality evaluation, process-related-to-outcome, has received support within the nursing profession. Bloch⁸ stated "the process-related-to-outcome type evaluation should be an ultimate goal of patient care. This type of evaluation allows examination of how the actions of providers relate to changes in recipient care". However, Bailit⁹ discussed several limitations in our understanding of the relationship between dental care processes and dental health outcomes. In both medical and dental practices there are many procedures that have not been fully tested for effectiveness. As an example Bailit⁹ raised the question, "do we know conclusively that semi-annual prophylaxes will prevent periodontal bone loss?" He stressed that: "The precise relationships among structure, process, and outcome are not completely understood. Ultimately, patients and the profession are most concerned about the impact of care on health status. Thus, the three aspects of quality must be examined together so that the structure and process elements of care essential to outcome can be identified."³

How to Assess

A second issue deals with what form the review system for quality assurance should take. There are a number of existing methods for assessing the structure, process, and outcome dimensions of quality.

The popular methods for assessing quality at the structural level include licensing, certification, and accreditation. Some licensing bodies require dentists and dental hygienists to comply with periodic clinical and didactic examinations. Certification renewal may also require periodic examinations. A health care provider may be both licensed and certified, as is the case in many dental specialties.³ In order to verify that educational institutions meet staff, resource, and program requirements, an accreditation review system is conducted in Canadian and American universities and colleges.

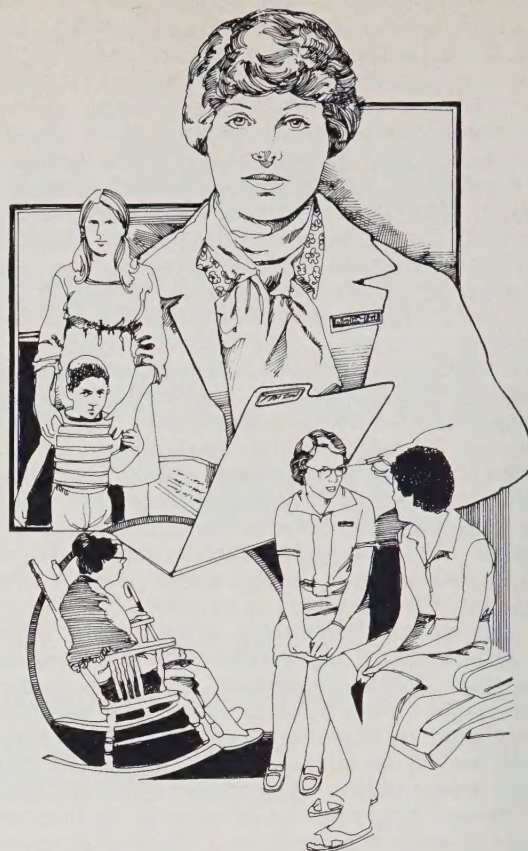
Direct observation of care, observation of results, and self-evaluation are a few ways in which process reviews are performed. Although direct observation is conducted in educational facilities, it is generally considered impractical for widespread use as it is extremely costly in both time and money. Observation of the completed treatment is usually conducted by patient examination or radiographic assessment. The recall of patients for an additional examination is impractical for widespread use; however, it can be used in isolated situations. Radiographic assessments are unacceptable if patients will be exposed to additional radiation for the sole purpose of quality assessment.³ Record audits are also used to review the processes and outcomes of care. Self-evaluation is gaining popularity with many quality assurance researchers. A report by Milgrom *et al*¹⁰ concluded that self-assessment in conjunction with peer review procedures is a reliable way of assessing quality. Before self-assessment can be a useful means of quality assessment, manuals with established criteria and standards must be developed. Further, the health care providers must be trained to use the evaluation criteria and standards. The clinical practice criteria and standards for dental hygienists currently being developed in Canada will be published so that all dental hygienists can use them as a self-assessment tool.

Peer review is often confused with one of the aforementioned review methods, but it is a general term which describes how a profession regulates itself. With the exception of self-evaluation, all of the above may be conducted by using a peer review process.

Review systems for monitoring dental health outcomes have not been fully developed. As mentioned previously, there are circumstances beyond the care provided which will affect the outcome of treatment. In addition to this, it has not been established what time factor should exist between the completion of treatment and the outcome assessment.³ Therefore, there are no easy answers as to the form a quality assurance review system should take.

How to Make the Process Attractive to Practitioners

A third issue is how to make quality assurance programs attractive to a profession. For many, the thought of being subjected to a performance evaluation can be an extremely threatening prospect. However, quality assurance review processes need not be intimidating. To achieve acceptance of the processes, the professionals themselves should be actively involved in developing the criteria and standards. Review processes (direct observation, record audits, clinical examination, and self-evaluation)¹¹ should also be developed through consultation with dental hygienists. The incorporation of the topic of quality assurance into dental hygiene curricula is important. It is the responsibility of educators to set high standards that will guide students in their desire to become competent



The quality of care can be assessed from three different but related perspectives: the structure, the process and the outcome of care.⁴

professionals.¹² In a number of dental programs within American universities, quality assurance programs have been introduced and have been favourably received by the students. For example, at the University of Michigan a peer review program was introduced into the prosthodontic department. The students were asked if the peer review program was an acceptable means of evaluation. Ninety percent of the students agreed that the program improved their ability to evaluate their own work.¹³ Dental hygiene educators should be encouraged to provide their students with didactic information about quality assurance and to develop peer and self-evaluation review processes for use in the clinic. Becoming familiar with peer review while a student should reduce negative feelings toward such processes following graduation.

Another reason why some professionals are uneasy about the development of quality assurance programs is that it opens the door to a higher level of consumer involvement and control. For example, if standards are written, consumers (as well as other professionals) can more readily assess whether or not quality care has been provided. A consumer who feels s/he has not been given adequate care may use the profession's own standards in a malpractice suit.

However, a higher level of consumer involvement and education should be welcomed, not feared. The educated, aware consumer will more readily become an active participant in the process of his/her dental care.

Directions for the Future

The foundation of any competence or quality assurance programs is the development of standards. Standards for clinical dental hygiene practice in Canada are currently being developed through a project funded by the federal government Department of National Health and Welfare. The methodology for the project is modelled after that used by the Manitoba Association of Registered Nurses in developing their "Standards of Nursing Care."^{14,15}

In 1985, a framework for the criteria and standards will be developed and the content validity of the criteria established through consultation with experts in clinical dental hygiene using a workshop format for the consultation. Following this, standards will be developed for each criterion and Canadian dental hygienists will be surveyed so that they can establish the content validity of the standards. The final statement of clinical practice standards will be available by the end of 1987.

It is important to note that these standards are standards of clinical practice. Dental hygiene practice also encompasses areas other than direct care such as education and research. It is to be hoped that developing standards of practice for these areas will be a project at some future time.

The Canadian Dental Hygienists' Association has recognized the importance of quality assurance and has established an ad hoc committee to liaise with the practice standards project researchers and to develop some plans for the future. As the "Issues" section of this paper clearly indicated, the development and implementation of quality assurance programs requires commitment, time, and money. Of these, commitment is the most important. Individual hygienists must be willing to work on developing the mechanisms for peer and self assessments and then implement them. Therefore, one direction for the future is clear — local groups of hygienists must be involved in these endeavours.

Further, as health care is a provincial responsibility, each province can develop a program suited to its own unique needs and requirements. However, the CDHA can provide leadership and guidance. The Board of Directors of the Association passed a resolution at its' 1984 meeting which indicates that the Association will provide this support. The resolution states: "whereas the development of a national model of competence/quality assurance for clinical dental hygiene is a desirable goal, and whereas the CDHA does not have a long range plan for a quality assurance system for dental hygiene in Canada, be it resolved that a task force be struck concurrent with the development of standards for dental hygiene practice that would serve to investigate competence/quality assurance."¹⁶

Conclusion

Canadian dental hygienists will become very familiar with quality assurance in the years to come. Many will participate in the survey to establish the content validity of the standards and others will become involved with the CDHA task force. Reports on the practice standards project and the results of the investigations of the CDHA task force will set the stage for the development of quality assurance mechanisms.

The authors would like to encourage individual dental hygienists to communicate with them or with the CDHA to ask questions and make comments about quality assurance. Only with *your* input and support will the dental hygiene profession be able to take this major step toward professional maturity. □

Acknowledgement

This paper was developed as part of the project to develop clinical standards of practice for dental hygienists, funded by the Health Services Directorate of Health and Welfare Canada.

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letters to the editor

Letters must be signed by the author(s). Please include a telephone number for verification of facts. Letters must be constructive and of significance to readers. Letters may be subject to editing for clarity or brevity.

Nuclear weapons issue addressed

We in the dental hygiene profession are concerned about prevention. We strive to prevent periodontal disease and caries. Many of us believe in a preventive life-style — eating right, keeping fit, and reducing stress in order to prevent disease. Our dental educations, in particular, teach us that we can often prevent many of the health problems that people encounter.

I feel that we, as dental health professionals, should take our prevention attitude one step further, and indeed, all the way — prevention of destruction of our planet by nuclear warfare.

A few years ago, I certainly never thought about war or nuclear weapons. Canada seemed to be a haven from problems like these, and it's easy to avoid the issue. However, I have been fortunate to have made acquaintance with others who are concerned, and I definitely felt ignorant in the face of their knowledge and ideas. About a year and a half ago, I joined our local chapter of *Project Ploughshares*, which holds its main office in Conrad Grebel Institute of Peace and Conflict Studies, U. of Waterloo, Ontario. *Ploughshares* is a Canadian peace and disarmament group that has shown itself to be present in various cities and towns across our country.

I am by no means fully knowledgeable about the nuclear issue yet; however, I can quote one statistic: various U.S., U.S.S.R., and other international experts agree that the nuclear arms available at this time, if used, would annihilate the world ten times over, and yet, more weapons are being produced daily. Annihilation is only one problem. Others are the social, economic, and emotional consequences of the arms production itself. Hope for future plans are dimmed. The youth of Canada and other countries have expressed fears that they may not live to grow up.

It seems to me and many others that it is time for this madness to stop; then, hopefully, reverse. Both sides have

agreed that this is technically possible.

Canada is in a unique position to be a global peace broker between the two major nuclear powers. Through our government, every Canadian citizen has a responsibility as well as a right to prevent a conflict, since we all will be affected if it happens. We the public must take action, since that is what our political system is all about — it's called participatory democracy. It means that, of course, you vote at elections, but you don't just stop there; it means that you write letters to your M.P., to the Prime Minister, to the Opposition, or even to the Soviet Politburo about your fears. The representatives of our country don't know how, or even if, we feel about this issue unless we openly express our concern.

In Canada and internationally there are various organizations of professionals who have begun to act: Physicians for Social Responsibility; Scientists for Social Responsibility; Lawyers for Social Responsibility; Generals for Peace and Disarmament; Canadian Church Leaders; to name a few, and I believe that a group of Dentists for Social Responsibility is beginning to organize at this time in Canada.

It is time that we as professionals in dentistry exercise our rights as an organized group. The main difficulty may be that many of us aren't well enough informed of the facts to make an intelligent personal decision about what action we should take. One solution to this dilemma is to have knowledgeable speakers present lectures, films, and debates, to dental convention audiences at the national, provincial, and local levels. Or perhaps articles or question-and-answer columns in our dental journals and newsletters.

Another way is to attend meetings in your community. *Project Ploughshares* is one of many anti-nuclear peaceful protest groups across Canada. There are also many excellent lectures, films, T.V. and radio programs, and books available if you watch for them.

As for action, you can always participate in a 'peace walk', or sign a petition, or dash that letter off to a politician. But whatever you do, please don't do 'nothing' . . . (remember prevention?).

I would be pleased to hear from anyone interested, and will send info or addresses if I can.

Melanie Fjoser, RDH

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Pincher Creek, Alberta
T0K 1W0 (403) 627-2454.

Errors in Quebec Dental Hygiene Article

I wish to thank you for publishing my articles in the Fall issue of *the Canadian Dental Hygienist* and would like to point out two errors which found their way into the text.

I found the first one in the English version alone in the second column of the first page where the dentists are said to have "an exclusive title". This is not the case, and it should have read "a reserved title".

The second one is in the table listing duties where duties in number five (insert, carve, and finish silicate composite resin, and amalgam restorations) warrant "on the spot" supervision, not supervision at a distance. The same mistake found its way into the French version as well.

L. Napert, RDH
Ottawa, Ont.

The following letters were included by readers responding to our recent readership survey.

Separate English and French Issues Recommended

With respect to question eight regarding the percentage of French in the Journal, would the feasibility of publishing each issue of the Journal with a number of English copies and a number of French copies be possible?

The determination of how many English or French copies to print could be done via a question incorporated in the annual membership renewal form (if it doesn't already exist). Each member could then receive a copy in the language of their choice.

I suggest this alternative as I find reading any publication which is bi or multilingually published very frustrating and lacking in continuity.

Clinically-Oriented Articles Asked For

I would like to see articles pertinent to the practicing hygienist in the Journal. Often articles relate to dental hygiene educators. What relevance does the article on "notetaking", spring '84, have to practicing hygienists? □

THE BRUSH, THE TOOTH AND LISTERMINT WITH FLUORIDE.



THE BRUSH

Most people who are concerned with reducing cavities already brush with a fluoridated toothpaste. Yet this is often not enough, because brushing alone may be less than perfect in hard to reach areas of the mouth.



THE TOOTH

Your own experience confirms that caries most often occur in the posterior and interproximal areas, where teeth are harder to reach. An improved fluoride maintenance

program, combined with your regular treatment, could help reduce these posterior and interproximal caries.

LISTERMINT WITH FLUORIDE

An estimated 60% of all Canadians use a mouthwash on a regular basis. In effect, these people are using a product that could serve as a safe and effective vehicle for extended fluoride treatment even in communities with a fluoridated water system. And there is now a mouthwash that does contain fluoride. Listermint with fluoride; a good tasting, efficacious mouthwash.



RECOGNIZED BY THE CDA

Listermint with fluoride has received the Canadian Dental Association Seal of Recognition. To quote: "Listermint with fluoride contains sodium fluoride which is, in our opinion, an effective decay preventive agent, and is of significant value when used in a conscientiously applied program of oral hygiene and regular professional care. The Canadian Dental Association."

In summary, Listermint with fluoride could help patients who are susceptible to caries by providing them with an additional effective new weapon in caries reduction.

FINANCIAL STATEMENTS

The Canadian Dental Hygienists' Association Toronto, Canada April 30, 1984

THE CANADIAN DENTAL HYGIENISTS' ASSOCIATION

TORONTO, CANADA

APRIL 30, 1984

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CHARTERED ACCOUNTANTS

SOBEL, SHERMAN AND COMPANY
CHARTERED ACCOUNTANTS

MARK SHERMAN, C.A.
ALLAN REEDERMAN, C.A.
ALLAN P. SOBEL, C.A.

8th FLOOR
222 ADELAIDE STREET WEST
TORONTO, ONTARIO
CANADA
M5V 1K3

TELEPHONE
(416) 593-1111

- AUDITORS' REPORT -

To the Members of the
The Canadian Dental Hygienists' Association,
Toronto, Canada

We have examined the Statement of Balance of Funds as at April 30, 1984 and the Statement of Receipts and Disbursements for the year then ended. As is the case with most organizations which receive funds by contributions, verification of such items was impractical beyond accounting for amounts recorded in the account.

Except for such adjustments, if any, that might have resulted had the receipts from contributions for the year been susceptible to satisfactory audit test, these Financial Statements present fairly the Statements of Balance of Funds and Receipts and Disbursements of the Association as at April 30, 1984 and the results of its operations for the year then ended, in accordance with generally accepted accounting principles, applied on a basis consistent with that of the preceding year.

October 5, 1984
Toronto, Canada

"SOBEL, SHERMAN AND COMPANY"
Chartered Accountants.



THE CANADIAN DENTAL HYGIENISTS' ASSOCIATION

STATEMENT OF BALANCE OF FUNDS

AS AT APRIL 30, 1984

(With Comparative Figures for 1983)

	1984	1983
Balance of Funds - May 1, 1983	\$101,034	\$ 77,897
Add: Excess of Receipts over Disbursements	<u>10,528</u>	<u>23,137</u>
Balance of Funds - April 30, 1984	<u>\$111,562</u>	<u>\$101,034</u>
Balance of Funds is Comprised as Follows:		
Bank Balances	\$ 49,695	\$ 30,421
Deposit Receipts (Note)	<u>61,867</u>	<u>70,613</u>
	<u>\$111,562</u>	<u>\$101,034</u>

APPROVED BY: _____

SOBEL SHERMAN AND COMPANY
CHARTERED ACCOUNTANTS

THE CANADIAN DENTAL HYGIENISTS' ASSOCIATION

STATEMENT OF RECEIPTS AND DISBURSEMENTS

YEAR ENDED APRIL 30, 1984

(With Comparative Figures for 1983)

	1984	1983
<u>Receipts</u>		
Membership Fees	\$118,292	\$111,997
Publications, Advertising and Subscriptions	16,225	11,960
International Symposium	7,500	-
Interest Received	5,660	9,903
Insurance Commissions	3,592	2,253
Translation Grant - Government of Canada	3,050	-
Convention Profits	2,025	3,843
Dental Health Project	1,229	5,459
Repayment of Advances	993	4,947
Fund Raising	<u>291</u>	<u>1,880</u>
	<u>158,857</u>	<u>152,242</u>
<u>Disbursements</u>		
Committees	30,397	25,598
Publications	29,792	30,994
Board Meetings	26,393	13,634
Administration, Stationary and Salary	22,322	9,763
Members' Liability Insurance	19,230	23,169
Honoraria	5,875	6,125
C.D.H.A. Representations	3,743	3,598
Dental Health Project	2,891	5,269
Donations	2,825	2,300
Manpower Brief	2,177	-
Audit and Legal Fees	1,065	1,275
C.D.H.A. Workshop	1,004	1,182
Insurance	250	275
Gifts to Officers and Student Awards	172	72
Conventions	150	1,800
Bank Charges	43	51
Grants	-	4,000
	<u>148,329</u>	<u>129,105</u>
<u>Excess of Receipts Over Disbursements</u>	<u>\$ 10,528</u>	<u>\$ 23,137</u>

SOBEL SHERMAN AND COMPANY
CHARTERED ACCOUNTANTS

THE CANADIAN DENTAL HYGIENISTS' ASSOCIATION

NOTE TO FINANCIAL STATEMENTS

APRIL 30, 1984

Note Deposit Receipts

The deposit receipts in the amount of \$61,867 are comprised of the following:

	Purchase Date	Maturity Date	Rate of Interest	Amount
First City Trust	April 13, 1984	June 14, 1984	9 1/4%	\$40,863
First City Trust	Oct. 18, 1983	Oct. 18, 1984	9 1/2%	<u>21,004</u>
				<u>\$61,867</u>

The association renews all deposit receipts on maturity unless cash is required for operations.

SOBEL SHERMAN AND COMPANY
CHARTERED ACCOUNTANTS

Notes To The 1984 Financial Statement

1. Dental Health Project

The dental health buttons are being phased out and replaced by another fundraising project.

2. Committees

For purposes of the auditor's report the committee expenses have included all of the costs of the membership promotion campaign and the membership computer program. The provincial associations will now be assessed their portion of the national membership program and this will reduce the reduce the total for membership and subsequently the overall total for all committee expenses.

3. Board Meeting

The Board meeting expenses are for the 1983 Annual Meeting, in Vancouver. They include travel and accommodation agenda book, transactions and directives, President's Reception, meals and room rental -- \$19,410.34. In addition CDHA provided \$6982.60 in travel costs to the directors from Ontario, Prince Edward Island, Manitoba, Quebec, Nova Scotia, Newfoundland and New Brunswick.

4. Administration, Stationary and Salary

CDHA has established a permanent office in Ottawa. The increased expenses include office rental, furnishings and equipment, telephone, printing and duplicating, postage, salaries, stationary and supplies, insurance, and expenses of the Executive Committee and the Bookkeeper.

classified ads

KITCHENER, ONTARIO — Dental hygienist required for Thursdays only for preventive maintenance practice. Apply to Dr. F. Roth, 1127 King St. E., Kitchener, Ont. N2G 2N3. (519) 743-2923.

HYGIENIST REQUIRED — for three dentist, two hygienist, progressive preventive dental practise in Medicine Hat, Alberta. Latest equipment and facilities. Contact: C.S. Hrankowski, #201, 1865 Dunmore Road SE, Medicine Hat, Alberta T1A 1Z8. Phone: 526-07777 (office); 526-8694 (home).

ATHABASCA HEALTH UNIT DENTAL HYGIENISTS

Two fulltime positions available within Health Unit area. Applicants must possess a recognized two year university diploma in Dental Hygiene.

Teaching skills and experience in community health preferred. A valid Alberta Driver's License required. Apply immediately to: Rosemary Neaves, Director, Athabasca Health Unit Box 1140, Athabasca, Alberta, T0G 0B0. Phone (403) 675-2231.

SUPERVISOR OF DENTAL HYGIENE

Fulltime position available in Athabasca office. Applicant must be Graduate of university diploma course in Dental Hygiene; demonstrate administrative skills; teaching ability and experience in Community Health. Apply immediately to: Rosemary Neaves, Director, Athabasca Health Unit, Box 1140, Athabasca, Alberta, T0G 0B0. Phone (403) 675-2231.

FULL TIME HYGIENISTS needed for a large group practice in PRINCE GEORGE, B.C. We are looking for caring, quality conscious individuals who are able to work well in a team situation. For more information please contact Dr. M. Rivera or B. Smith at 4122 15th. Ave. Prince George, B.C. V2M 1V9 (604) 562-5551.

Four dentist, busy preventive practice requires 2 full time hygienists and 1 dental assistant. Modern building located in Kirkland Lake, Ontario, 88 miles south of Timmins. Contact: Dr. J.R. Brookfield, 705-567-3214 or send resume to Box 575, Kirkland Lake, Ontario. P2N 2E4.

Dental Hygienist required full time for busy, preventive orientated practice in Milton, Ontario. Congenial staff, Excellent salary, can be flexible on working hours. Reply, Dr. Barbara Wilson, 497 Laurier Avenue, Suite 7, Milton, Ontario, L9T 3K8. 416-878-0555.

CRANBROOK, B.C. — Full time hygienist wanted to join team-oriented general practice. Excellence, caring, and personal growth are our hallmarks. Unique facility in Rockies, close to many recreational opportunities. Send resume to: Dr. Jeff Williams, #3-1129 21 Avenue North, Cranbrook, B.C. V1C 5L9 (604) 489-4731.

DENTAL HEALTH BUTTONS

Dental Health — Let's Keep It Good For Life
and

La Santé Dentaire — Une Question de Qualité de Vie
are the slogans for Dental Health, 1985

Lapel buttons featuring an abbreviated version of the slogan may be ordered now and used as reminders of good oral health all year round.

NOTE: Order in lots of 100 only. Order early to ensure delivery in time for your local Dental Health Month campaigns.

Thank you for your support.

A PROJECT OF THE ONTARIO DENTAL HYGIENISTS' ASSOCIATION

ORDER FORM

ODHA LAPEL BUTTONS

Ms. Deborah Steacy
#2-999 Portsmouth Ave.
Kingston, Ont.
K7M 1X2

Name _____

Address _____

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No. of Buttons _____ @\$30.00/100

Postal Code _____

Amount of Cheque \$ _____

English ☐ French ☐

Remittance must accompany order.
Payable to Ontario Dental Hygienists' Association

DENTAL HYGIENISTS

Applications are invited for the position of Dental Hygienist with the Calgary Health Services Dental Division.

Responsibilities:

Clinical, educational, and community activities in the Preventive Dental Health Program.

Qualifications:

Graduation from a recognized School of Dental Hygiene and certification by the Universities Co-ordinating Council, University of Alberta

Salary:

Salary range approximates \$1,864.00-\$2,249.00 per month. (\$22,368.00-26,987.00 annually)

Benefits:

Employee benefit package including four weeks annual vacation after one year's service

Preference will be given to non-smokers.

Qualified applicants are invited to submit applications or resumes *in confidence* to:

Director, Dental Services
Calgary Health Services
P.O. Box 4016, Station 'C'
320 - 17th Avenue S.W.
Calgary, Alberta T2T 5T1
Telephone: (403) 228-7410



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1984-85 directory

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- **EDITOR:** Stephanie Nagle, 3767 Victoria Blvd., Windsor, Ont. N9E 3L7 (519) 966-7651 or (519) 966-1656 ext. 389.
- **BOOKKEEPER:** Ailsa Wood, 505 - 160 Balmoral Ave., Toronto, Ont. M4V 1J7 (416) 923-1669.
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- **NEWFOUNDLAND:** Henry King, 23 Allendale Road, St. John's, NF. A1B 2Z3.
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- **FINANCE:** Kathy Starko, 14623 - 78th Ave., Edmonton, AB. T5R 3C4 (403) 486-5343.
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- **AD HOC COMMITTEE ON RESTRUCTURING:** Audrey Newcombe, RR #1, Tyne Valley, PEI. C0B 2C0 (902) 831-2964.
- **LIFE/HONORARY MEMBERSHIP REVIEW:** Mary Pelletier, box 18, Site 5, RR #7, Moncton, NB. E1C 8Z4 (506) 3384-8728 or (506) 389-8494.
- **LEGISLATION CO-ORDINATOR:** Anne Bosy, 44 Methuen Ave., Toronto, Ont. M6S 1Z6 (416) 766-8079 or (416) 967-1212 ext. 2223.
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- **CDA COUNCIL ON EDUCATION:** Kate Macdonald, 2914 Novalea St., Halifax, NS. (902) 455-8868 or (902) 424-2281.
- **CDA COUNCIL ON HEALTH CARE:** Peggy Larder, 6150 Regina Terrace, Halifax, NS. B3H 1N5 (902) 429-4166 or (902) 424-2279.

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- **N.S.:** Carolyn Bourque, 903 - 5885 Cunard St., Halifax, NS. B3H 3R3 (902) 423-0494.
- **N.B.:** Connie Maddox Campbell, 860 Bay Ave., Bathurst, NB. E2A 1W1.
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- **P.E.I.:** Debbie Richards, 19 Millbrook Drive, Charlottetown, P.E.I. C1A 7V2 (902) 569-4490.

- Nfld.: Louise Dwyer, 1 Hill Road, Grand Falls, NF. A2A 1G9.

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- P.E.I.: Denise Arsenault, Box 2912, Charlottetown, P.E.I. C1A 8C5 (902) 569-2842.
- Nfld.: Henry King, 23 Allandale Road, St. John's, Nfld. A1B 2Z3.

CONSTITUTION:

- B.C.: Robin Zorkin, T100 g11-6805 Arlington St., Vancouver, B.C. V5C 3P1 (604) 438-2960.
- Alta.: Christine Hensel, 4031 110th St., Edmonton, Alta. T6J 1E7 (403) 434-1669.
- Sask.: Leanne Carlson, 922 Flamingo Cres., Regina, Sask. S4T 0L1 (306) 586-4841.
- Man.: Laura Dempster, 596 Foxwood Trail, Pickering, Ont. L1V 4B2 (416) 839-6851.
- P.Q.: Lorraine Langevin, 1105 2nd Avenue, Quebec, P.Q. G1L 3C5 (418) 522-6208.
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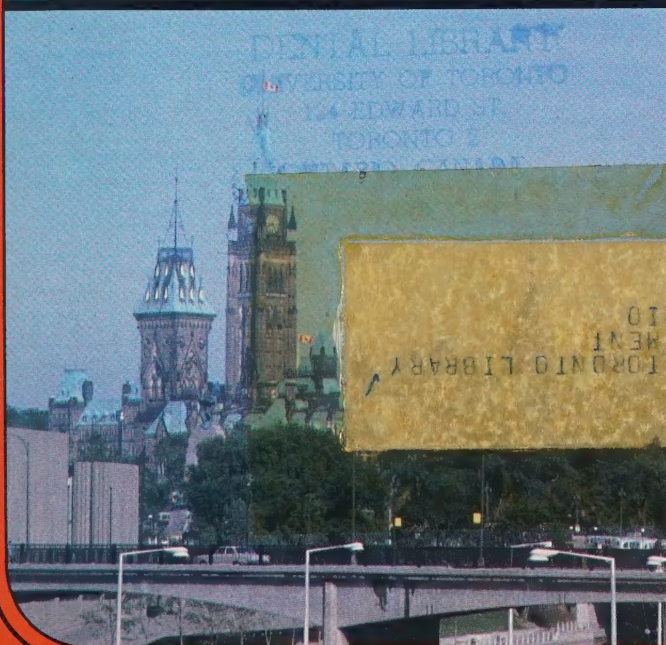
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SUMMER 1985 ÉTÉ

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cover story

Come to Ottawa — "A Capital Place to Meet", Sept. 29 to Oct. 2, 1985 for the CDHA national convention. The cover photographs depict a few Ottawa scenes; top left are the Governor General's Footguards photographed by David Lever; top right is the city of Ottawa at dusk; bottom left is the parliament buildings; and bottom right depicts white water rafting on the Ottawa River rapids.

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THE CANADIAN DENTAL HYGIENIST is the official journal of the Canadian Dental Hygienists' Association and is published quarterly.

All journal communications should be directed to the Editor, except subscription and advertising matters which should be addressed to the respective staff members.

Subscription rates for non-members are: \$15.00 per year in Canada and \$22.50 per year foreign.

The opinions expressed in editorials or articles are those of the authors and do not necessarily represent the views of the Association, the Publisher or the Editor.

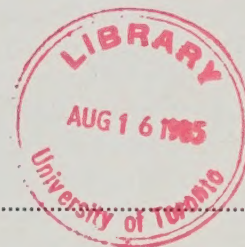
L'HYGIENISTE DENTAIRE DU CANADA est la revue officielle de l'Association des hygiénistes dentaires du Canada et est publiée à tous trois mois.

Toutes communications ayant trait à la revue devraient être adressées au Rédacteur en chef, à part les abonnements et tout ce qui concerne la publicité, ce qui, de leur côté, devraient être adressés aux membres du personnel respectifs.

Les tarifs d'abonnements pour les non-membres sont les suivants: \$15.00 par année au Canada et \$22.50 par année en pays étranger.

Les opinions exprimées dans les éditoriaux ou dans les articles celles des auteurs et ne représentent pas nécessairement les points de vue de l'Association, de l'Editeur ou du Rédacteur.

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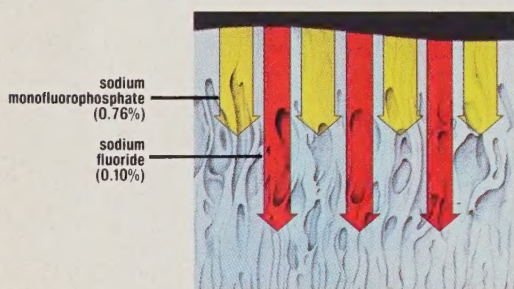
How Colgate's two fluoride formula achieves more complete remineralization resulting in nearly double the cavity protection of a single fluoride formula.*

A major role of fluoride in cavity prevention is to accelerate the process by which demineralized enamel is rebuilt.⁽¹⁻⁴⁾ This reverses white spot lesions which would otherwise become cavities.

Today's Colgate is the first toothpaste with two fluorides—sodium monofluorophosphate at 0.76% and sodium fluoride at 0.10%. Their differing molecular structures mean that these fluorides may work in different ways in tooth enamel. The result at these concentrations, is more complete remineralization of white spot lesions than either can achieve alone.

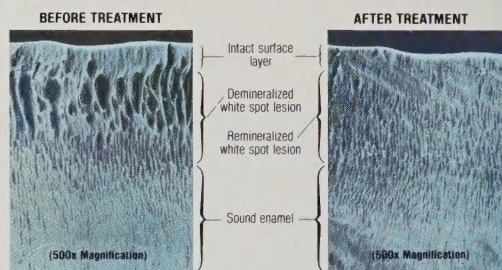
Why these two fluorides remineralize more completely.

It has been postulated that fluorides reach white spot lesions by penetrating enamel through the interprismatic spaces. Sodium monofluorophosphate, being a larger molecule, reacts with enamel primarily at the surface of a white spot lesion. Sodium fluoride, a smaller molecule, penetrates deeper into the lesion.



Working at different levels, the two fluorides may complement each other, enhancing remineralization over a greater area of the lesion than a single fluoride* alone.

This complementary action means more fluoride is available to enhance remineralization over a greater depth of the lesion than is provided by either fluoride alone.^(5,6)



This more complete remineralization has been demonstrated in laboratory studies⁽⁷⁾ and can be seen in the photomicrographs above.

Clinical studies show nearly double the cavity reduction.

Colgate with this two fluoride concept was tested in a three year clinical study.⁽⁸⁾ The results—Colgate's two fluoride formula provided 27.0% reduction in new caries versus 13.8% for the single fluoride positive control* (DMFT).

Conclusion.

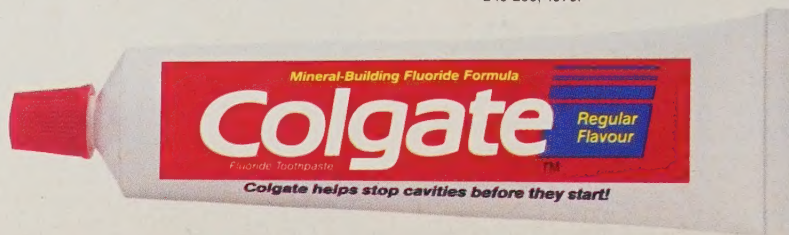
Colgate's two fluoride formula provides superior cavity protection to a single fluoride formula*: *Only Today's Colgate has a two fluoride formula.*

When you recommend Colgate you're recommending an innovative product—offering advanced and clinically tested cavity protection.

*Sodium monofluorophosphate (0.76%)

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8. Hodge, H.C., et al, Brit. Dent. J., **148**, 201-204, 1980.



* Colgate Toothpaste contains sodium monofluorophosphate and sodium fluoride which are, in our opinion, effective decay preventive agents and are of significant value when used in a conscientiously applied program of oral hygiene and regular professional care. Canadian Dental Association

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president's message

A Busy Year for CDHA

Hello fellow hygienists! Please allow me to reflect on what changes have occurred this year that may affect you.

Currently, CDHA is actively working on a new structure for our Board of Directors. The main objective is to reduce its size, thus the cost of the annual meeting, to allow the Board to be more effective in decision making.

Our Membership Committee has been working diligently at developing benefits for CDHA members. Not only do you receive liability insurance with your membership, but you also get the opportunity to avail yourself of a custom-made disability insurance policy. Did you know that all CDHA members are now eligible for discount rates at Tilden Rent-A-Car as well as a 10% discount at Holiday Inns across Canada? Linda Berry and her committee have also made it possible for you to pay your membership dues by credit card (VISA).

The Manpower and Utilization Committee is working on producing an updated "Careers in Dental Hygiene" pamphlet and is also formulating a Canadian dental hygiene survey to be used instead of, or in conjunction with, the federal Statistics Canada Dental Hygiene survey, which has been tabled due to lack of funding. Once the vehicle for such a survey is in place, CDHA headquarters will have access to information deemed critical for planning the future needs of dental hygienists across Canada.

The Long Range/Financial Planning Committee chaired by Sheryl Feller is doing a wonderful job in helping CDHA plan its long and short term goals. Short term goals include: (1) restructuring the board; (2) portability/accredita-



Immediate Past President, Mary Pelletier, and President, Laura Mowat, at '84 board meeting.

tion; (3) planning for and seeking financial sponsorship for the continuing education workshop (Halifax '86); and (4) membership research project. Long term goals include: (1) membership development; and (2) the development of corporate sponsorship support for a research training fellowship and other education-related activities or events.

Sheryl and her committee are also working closely with Ellen Brownstone's subcommittee on Quality and Competency Assurance. For more information, please see the article "Dental Hygiene Quality Assurance: Definitions, Issues, and Directions for Canada" by J. Pimlott, L. Chambers, K. Scherer, and S. Feller published in the April issue of this journal.

Joanne Clovis, chairman of the Community Dental Health Committee, has submitted a proposal for funding to the Health Promotion Contribution Program for an oral health resource for the elderly.

Once this proposal for funding is accepted, the development of this invaluable resource will begin. The poster "Smile . . . for Life", available through CDHA head office, was also developed by this committee.

Adequate continuing education has been identified as one of the most critical needs by our members. Mickey Wener and her C.E. Committee are busy putting the CDHA C.E. catalogue on computer at CDHA headquarters and gathering information related to the establishment of study clubs for dental hygienists.

As you can see, we have a very active Association whose committees are out there working to provide benefits for and information to our members. Remember — CDHA is only as strong as its members. Please keep on supporting us and we at CDHA will continue to strive to represent you as the professionals you are! ☐

Laura Mowat, R.D.H., B.A.
CDHA President

comment

How Many Hygienists are Enough?

The answer to this question should be that, until every man, woman, and child in Canada is experiencing optimal dental health, there are not enough dental hygienists or dental personnel in Canada. The question of whether or not there are sufficient number of dental hygienists to fill the existing job market is a separate and problematic issue.

In the aftermath of the R.K. House Manpower Study commissioned by the Canadian Dental Association and the Lewis Manpower Study, many provinces began to examine current and projected manpower needs which necessitated examining many interrelated issues. Such issues as supply and demand of manpower, distribution of existing manpower, incentive grants, use of auxiliaries, education, and costs of providing dental services all rise to the surface as committees try to come to a consensus.

The dental hygiene profession will face many manpower issues over the next few years. Portability is one issue which can greatly influence manpower supplies. For many years, the Canadian Dental Hygienists' Association has been encouraging national portability.

As each province examines the issue, any manpower oversupply could encourage some provinces to protect its own workforce by discouraging interprovincial migration through various changes in licensing requirements. It would appear that this is a crucial time for CDHA to continue its dialogue with the provinces on portability.

For many years, hygienists have enjoyed a relatively good job market. Now we hear reports about hygienists unable to obtain full-time jobs in dental

hygiene or that starting salaries have dropped in the past three years reflecting a perceived oversupply of hygienists. On the other hand, we all know of locations outside urban areas where it has always been accepted that, until hygienists go to these areas, the use of untrained personnel to deliver dental hygiene services will continue. The lack of concrete data to properly examine these issues is painfully obvious.

Many suggest that an oversupply of dentists will cause dentists to perform prophylaxis procedures themselves; therefore, providing fewer new employment opportunities for hygienists. Since the dental hygienist is the preventive care specialist, I suspect much would be lost in terms of the dental health of the public if personnel who are less prepared for the role of dental health educator assumed our duties.

As dental manpower supplies increase, hygienists should become more active educators to increase the demand for dental services. A better educated public will demand better and more frequent dental services. It seems prudent that, as dental manpower supplies increase, we find ways of tapping the unfloated thousands out there. At the same time, hygienists must attempt to broaden their base of employment by seeking jobs in non-traditional settings to allow them to reach more people in the community.

If we approach the manpower problem positively, it is possible to turn an apparent disadvantage to an advantage. □

Patricia Grant, R.D.H., B.A.
Halifax, Nova Scotia



OTTAWA *A CAPITAL*

1985 CDHA Convention Speakers



Marjorie Kort, R.N., B.Sc.N.

MOTIVATION TO CHANGE HEALTH HABITS

Marjorie Kort, R.N., B.Sc.N.

Monday, Sept. 30, 1985
9:00 a.m. - Noon

Marjorie graduated from the Manitoba Science Centre in 1963 with a diploma in nursing. In 1971, she began specializing in the field of addiction. From this, she developed a broader interest in the area of primary prevention, lifestyle and health. In 1977, she returned to university to complete a bachelor of science degree in nursing, graduating in 1980. Since then, Marjorie has merged her experience and knowledge in addictions and lifestyles to develop and co-ordinate a lifestyles enrichment program for senior adults with alcohol and other drug problems.

She is currently Co-ordinator of the Healthstyles Project, a 4 year community health promotion demonstration project operating at the Centretown Community Health Centre in Ottawa. She also does private consultant work in stress management.

This presentation will address the issue of motivation and behaviour changes. It will look at motivation from a theoretical perspective as well as in practical applications. The answer to these questions will be explored and discussed: What is motivation?; What is the role of the health professional in the change process?; How do people get motivated to change long-standing habits?; and How do they maintain motivation?



Chuck Eberley, B.A., D.P.A.

MEMORY AND RECALL

Chuck Eberley, B.A., D.P.A.

Monday, Sept. 30, 1985
2:00 p.m. - 4:30 p.m.

The ability to recall information is a skill which is often neglected. This neglect seems ironic in the light of the many benefits of having a well-trained memory. We shall, therefore, focus on those benefits and on the process of information recall.

You will be encouraged to use your imagination and participate in some basic techniques which make the process of remembering so much easier and enjoyable. Then we shall examine a specific mnemonic system which has proved very effective in various ways — from more efficient studying, to remembering names and faces more quickly and accurately. The basic "building blocks" of the system will be presented so that any participant who decides to pursue the method will only have to continue practicing and in a short period of time — as little as 3 or 4 hours — be able to improve his or her effective ability to recall enormously.

Chuck has been active in human resource development in both the public and private sector since 1971. As a former training co-ordinator with the R.C.M.P. Security Service, he was involved in various skills and management training. He is currently the Head of the School of Instruction for the Ottawa-Carleton Transportation Commission.

KEEPING YOUR PATIENTS CARIES-FREE

Alice M. Horowitz, R.D.H., B.A., M.A., and
Herschel S. Horowitz, D.D.S., M.P.H.

Tuesday, October 1, 1985
9:00 a.m. - Noon

With the intelligent use of fluorides and sealants, it is possible to prevent nearly all dental decay in children and adults. The proper use of fluorides entails the provision of a source of systemic fluoride during the period of tooth development and effective topically-applied fluorides to erupted teeth. Community and school water fluoridation and dietary fluoride supplements will be reviewed and specific recommendations for fluoride toothpastes, mouthrinses and professionally-applied fluorides will be given. Emphasis will be placed on the importance of pit-and-fissure sealants in supplementing the benefits conferred by fluorides. Proper techniques of sealant application will be reviewed and stressed. The role of dietary control and plaque removal will be placed in perspective. Health education and health promotion activities for individuals and communities will be discussed. Slides and films will be shown and many handouts will be made available to participants.

Dr. Horowitz is presently employed as Chief, Clinical Trials Section, Epidemiology and Oral Disease Prevention Program, National Institute of Dental Research, National Institutes of Health, Bethesda, Maryland.

Mrs. Horowitz is currently employed as Chief, Health Promotion and Science Transfer Section, Office of Planning, Evaluation and Communications, National Institute of Dental Research, National Institute of Health, Bethesda, Maryland.



Herschel Horowitz, D.D.S., M.P.H.

September 29 to October 2 1985

PLACE TO MEET

REPORT FROM THE WORKING GROUP ON THE PRACTICE OF DENTAL HYGIENE

Prof. M.G.E. Forgay; Facilitator

Tuesday, October 1, 1985

1:30 p.m. - 3:00 p.m.

The Working Group on the Practice of Dental Hygiene is sponsored by the Department of Health and Welfare Canada. The expert committee is composed of eight dental hygienists and five dentists from across Canada who have been meeting in Ottawa for the past four years to study dental hygiene practice and make recommendations concerning the History, Regulations, Education, Manpower and Practice Setting. The final meeting was held in May and the final report will be published later this year. Some of the members from the Working Group will be with us to cover the major areas of review and some selected recommendations. This will be an excellent opportunity to better understand the practice of dental hygiene across Canada.

DEVELOPING CLINICAL PRACTICE STANDARDS FOR CANADIAN DENTAL HYGIENISTS

Sheryl Feller, R.D.H., M.B.A.

Tuesday, October 1, 1985

3:30 p.m. - 5:00 p.m.

The impetus for the project to develop clinical practice standards for dental hygienists came from the Federal Government's Working Group on the practice of Dental Hygiene who had originally planned to develop standards as part of their work. However, their research revealed that it would be very difficult for a volunteer group to do the type of work required to develop valid standards. Thus, an Advisory Committee was established and Health and Welfare Canada began negotiating with Sheryl Feller for her consulting firm to take on this project. During 1983, the methodology for the project was developed and finalized. In the fall of 1984, a contract between the Health Services Directorate and SJB Management Consultants was approved and the work began. Sheryl's presentation will cover the various aspects of her work, what these clinical standards will mean for the dental hygienist, how she will be involved, and how she can use the standards once they have been developed.

PANEL DISCUSSION: "HOW CAN WE MEET THE NEEDS OF THE GERIATRIC AND DISABLED PATIENT IN CANADA"

Wednesday, October 2, 1985

11:00 a.m. - 1:00 p.m.

Following the brunch (generously sponsored by Colgate-Palmolive), you will want to stay for our final pièce de résistance.

A panel of informed dentists and dental hygienists will debate a very current question: "How can we meet the needs of the geriatric and disabled patient in Canada?"

Joanne Clovis, who is senior dental health consultant with the Department of Social Services and Community Health in Edmonton, Alberta, will chair the discussion and lead our six panelists. Along with a wealth of information and ideas from various parts of the country there will be ample time for audience participation.

Panelists include:

Dr. Roger Ellis: Professor and Chairman, Department of Dental Care, University of Alberta

Dr. Hugh MacKay: Associate Professor, Dept. of Prosthodontics, University of Toronto; Dental Consultant to the Metro Homes of the Aged

Mrs. Pat Johnson, R.D.H., B.Sc.D., M.Sc.: Doctoral Student

Mrs. Jenny Thomas, R.D.H.: Ottawa Civic Hospital, Dental Department

Mrs. Yvonne Knazan, R.D.H.: University of Manitoba, Faculty of Dentistry

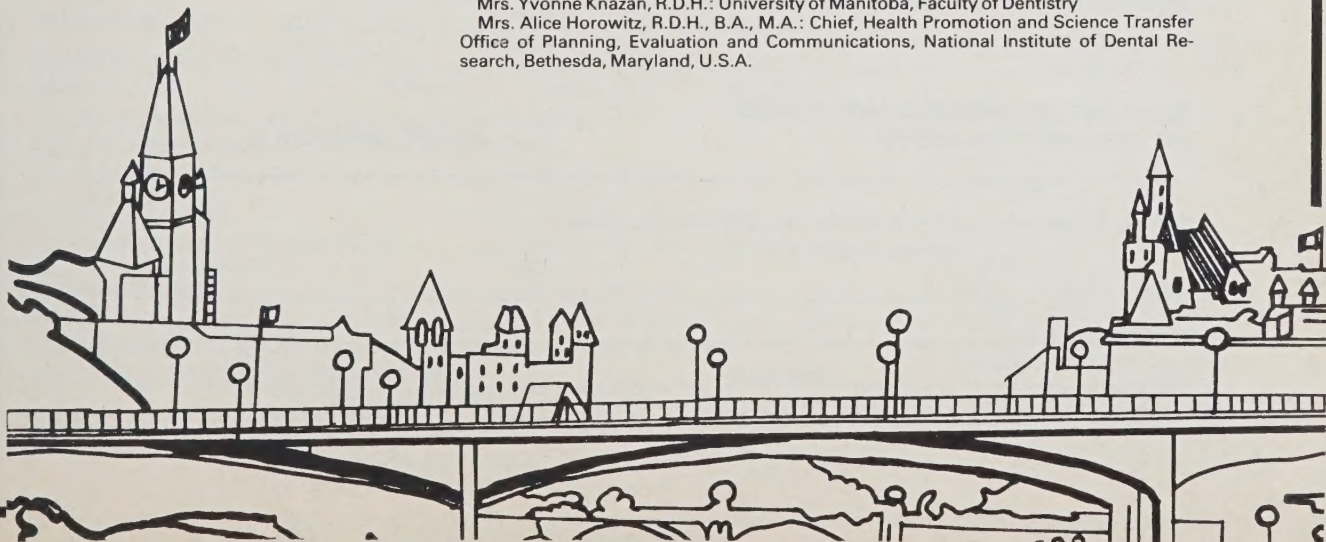
Mrs. Alice Horowitz, R.D.H., B.A., M.A.: Chief, Health Promotion and Science Transfer Office of Planning, Evaluation and Communications, National Institute of Dental Research, Bethesda, Maryland, U.S.A.



Sheryl Feller, R.D.H., M.B.A.



Alice Horowitz, R.D.H., M.A.



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10TH INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE

Call for Abstracts

"Dental Hygiene for Everyone" has been selected as the theme of the 10th INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE to be held in Oslo, Norway June 26 to 29, 1986. Suggested subject areas are:

Prophylaxis, Communication, Nutrition, Handicapped, etc.

Participation in the programme is not limited only to members of the dental health profession and abstracts are welcomed from all countries and disciplines.

Invited and contributed papers in these and other areas will be critically reviewed and selected for presentation at scientific sessions, seminars and workshops.

Required information/material:

1. A separate cover sheet (8 $\frac{1}{4}$ " x 11 $\frac{3}{4}$ " or 21 cm x 30 cm) which must include the following information:
 - a. Title of paper. The title should be brief and should clearly indicate the nature of the paper. Title must be typed in capital letters. Abbreviations should not be used in the title.
 - b. Name(s) of author(s) and the identity of the individual who will present the paper.
 - c. Professional status of author(s) and address and telephone number of senior author.
 - d. Audiovisual needs (e.g. slide or overhead projector, screen, chalkboard, etc.) must be clearly identified.
2. Title of the paper followed by a typed, doublespaced narrative abstract limited to 100-200 words. References and credits are not included as part of the abstract. Special tables or graphs, using black ink or type-written, may be included. All papers must be submitted in English.
3. Two copies of the abstract must be mailed no later than **1st November, 1985** to:

The Scientific Committee

10TH INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE

P.O. Box 438

1301 Sandvika

NORWAY

Presentations will be limited to approximately 20 minutes (2000 words).

Notification to authors of papers selected or rejected will be made by 1st January, 1986. Copies of complete presentations will be requested for submission by **1st March 1986**.

It is a condition of submission of abstract that the abstract, complete papers and illustrations may be published by the Symposium Committee and reproduced in written or recorded form as a result of being presented at the congress.

Halowski heads project to write dental hygiene competency profile

Wendy Halowski, R.D.H., M.Sc., a consultant in dental auxiliary education from Vancouver, B.C. is under contract to define the dental hygiene competency profile for the CDA Council on Accreditation.

The purpose of the project is to define the dental hygiene competency profile for the CDA Council on Accreditation. The competencies developed would encompass those functions performed routinely in all provinces. The competencies will not be limited to clinical functions, nor to those functions unique to a particular province. Rather, the competencies will describe dental hygiene practice in a broad concept and will dovetail with the Dental Hygiene Practice Standards, currently being developed through a separate project contracted to Sheryl Feller, R.D.H., of SJB Management

Consultants. Once completed, this competency profile will be used for accrediting dental auxiliary programs.

It is estimated that the project will take six to eight months to complete. The resources being used are the current standards, criteria, and competencies being used in various dental hygiene programs throughout Canada, the American Dental Hygienists' Association Curriculum Guidelines, and current dental hygiene textbooks. Ms. Halowski is under the direction of the CDA Competency Profile Steering Committee.

Members of the Steering Committee for this project include: Kate MacDonald (chairman), Dianne Gallagher, Ellen Brownstone, Anne Bosy, Maureen Symmes, Arthur Schwartz, Hank Demeris and Wendy Halowski. □



Wendy Halowski
R.D.H., M.Sc.

What is the International Liaison Committee?

In the mid-1960's, the American Dental Hygienists' Association began to sponsor continuing education/scientific sessions in foreign countries for the benefit of ADHA members. Foreign tour arrangements were an integral part of this program and members of the dental profession and dental hygiene profession in local countries were invited to attend these scientific sessions. In the early 1970's, national associations known to exist, and in whose country an ADHA session had been held, were asked if they believed this ADHA program could become a truly international event with sponsorship determined by invitation from a particular country. The answer was affirmative and, since that time, International Symposia on Dental Hygiene have been held in The Netherlands, Japan, Sweden, Canada, the United Kingdom,

and the United States. Guidelines for conducting the Symposia were developed and adopted by the International Liaison Committee.

The International Liaison Committee (ILC) formed naturally from a desire of the countries involved to communicate with regard to evaluating previous symposia and to seek guidance in developing future symposia. The International Liaison Committee presently consists of national association representatives from Canada, Japan, Norway, The Netherlands, Republic of South Africa, Sweden, United Kingdom, and United States. Three factors seem to be important to requests from other countries to become members of the International Liaison Committee: 1) increasing awareness internationally regarding the International Symposia on Dental Hygiene; 2) knowledge of the formation of an

International Liaison Committee; and 3) increasing development of dental hygiene or similar schools in developed and developing countries.

At the 1977 ILC meeting in Sweden, Mrs. Wendy Leech, Chairman, proposed fundamental guidelines for membership in the ILC. At the same meeting, the ADHA proposed that funds be sought for a study of the need, goals, and membership qualifications of an expanded ILC and/or an international federation of national dental hygiene associations. Other ILC member countries agreed such a study was desirable, and additional membership in the ILC was held in abeyance until such study could be completed.

Several factors prevented initiation of this project, and instead, a special committee was appointed for the purpose of developing a

constitution for an International Dental Hygienists' Association. The Working Party (committee) did most of its work through the mails, with expenses absorbed by the British Dental Hygienists' Association (a loan), ADHA, and Wilma Motley (former ADHA editor for 15 years). In 1981 the proposed Articles and Regulations were accepted in principle by the ILC and were revised and circulated to all ILC members before the 1983 meeting.

At the 1983 meeting in Philadelphia, representatives of the ILC expressed their appreciation of the revised Articles and Regulations for the formation of an IDHA, but requested they be simplified before acceptance, and this new revision be received by October 1, 1984. The representatives indicated their intention of accepting the simplified rules and forming the IDHA in 1986 at the meeting in Oslo, Norway.

These representatives also ex-

panded requirements for ILC membership; opened ILC meetings to all interested individuals; broadened officer eligibility; authorized a subscription assessment; created the elective office of Secretary/Treasurer. In addition, actively interested members drafted "Statement and Role, Responsibilities, and Term of Office of the Official Representative to the ILC", and "Assessment of the Need for an IDHA". Representatives accepted the proposal of a newsletter and directed that it be a quarterly publication mailed to the official representative of each member country, who would then be responsible for sharing its news with the general membership in that country. (The above has been abstracted from Austa White's 1979 document and was revised and supplemented by Wilma Motley in 1984.)

CDHA supports the concept of international scientific exchange. Cultural, social, economic, and professional considerations dictate the need to continue that concept. Today it is necessary to anticipate the future in light of the

growing sophistication and utilization of communications and travel, and the impact of these and other changes in the socio-economic conditions in developing and developed countries, including Canada. CDHA members who have worked conjointly with other representatives of the ILC since 1972 are; Sharon Amer-French, Joan Voris, Sherita Clark, Marjorie Dimitri, Patricia Grant, Patricia Johnson, and Jo Gardner.

The scientific program for Oslo's Symposium in 1986 is "Dental Hygiene for Everyone". It provides an opportunity for Canadian hygienists to share information and concerns with peers from around the world. Each Symposia has shown an increase in number of countries represented as either general registrants or participants in the program. Further information will be forthcoming regarding the sessions, workshops, and group tours. Circle June 1986 as a date to show support of and/or participate in the next international dental hygiene meeting. □

Submitted by Jo Gardner,
ILC representative

Certificates of Appreciation available for community oral health promoters

The CDHA Community Dental Health Committee wishes to recognize individuals and groups who have effectively promoted oral health during dental health month or at any other time of the year by awarding them a "Certificate of Appreciation". Names and addresses of deserving groups or individuals who have made a significant contribution to public oral health education may be forwarded on the application below to Joanne Clovis, Chairperson of Community Dental Health. Don't be reluctant to nominate yourself if you have effectively promoted oral health in your community this year.

Name: _____

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Significant Contribution to Public Oral Health Education and Promotion

Mail to: Ms. Joanne Clovis, #1, 14310 - 80 Street, Edmonton, Alberta T5C 1L6

self assessment test

Dental Office Emergencies

1. Many emergencies within a dental office may be prevented by:
 - a) acquiring knowledge of a patient's allergies and drug reactions
 - b) acquiring knowledge of a patient's physical condition
 - c) consulting a patient's physician regarding any medical problems
 - d) observing a patient's mental state
 - e) choices a and d are correct
 - f) choices a, b, c, and d are correct
2. Should a patient faint in a dental chair, the hygienist should **NOT**:
 - a) loosen tight clothing
 - b) apply cold towel to forehead
 - c) elevate the head so that it is higher than the rest of the body
 - d) use aromatic spirits of ammonia
 - e) choices a and b
3. Insulin shock victims may be aided by:
 - a) amyl nitrite
 - b) artificial respiration
 - c) black tea or coffee
 - d) a small glass of orange juice
 - e) nitroglycerin tablets
4. A symptom of Petit Mal epileptic seizure is:
 - a) brief loss of consciousness
 - b) fixed posture, patient remains motionless
 - c) failure of patient to respond to command
 - d) choices a, b, and c
 - e) choices a and b
5. A manifestation of angina pectoris is **NOT**:
 - a) pain which persists at least ½ hour
 - b) a history of previous attacks
 - c) a vise-like pain
 - d) sudden onset of pain
 - e) choices a and c
6. Which of the following emergency procedures should be carried out for a patient who is experiencing a toxic reaction during the administration of local anesthetic?
 - a) place patient in the Trendelenburg position
 - b) stop injection
 - c) place patient on the floor in recovery position
 - d) assist respiration and monitor vital signs
 - e) hold spirits of ammonia under patient's nose
 - a. A, C, D, E
 - b. C, B, D, E
 - c. B, C, D
 - d. A, B, C, D
 - e. All of the above
7. Cessation of respiration and absence of pulse characterizes:
 - a) shock
 - b) cardiac arrest
 - c) anaphylaxis
 - d) toxic reaction
 - e) syncope
8. What condition should exist before the rescuer attempts to revive a victim by performing cardiopulmonary resuscitation?
 - a) permanent brain damage has occurred
 - b) evidence that breathing and the pulse are absent
 - c) the victim's pupils are dilated
 - d) the victim has shallow respirations
9. The universal distress signal characterizing an apparent obstructed airway in a conscious adult is:
 - a) rapid heavy breathing
 - b) violent choking
 - c) victim's hand at his throat
 - d) violent thrashing of the victim's arms
10. Which of the following is generally **not** considered to be a warning sign of heart attack?
 - a) pain in the legs
 - b) squeezing feeling in the chest
 - c) numbness or aching in the arms
 - d) aching jaws
 - e) nausea, sweating and shortness of breath

References:
 Canadian Heart Foundation: Cardiopulmonary Resuscitation Basic Rescuer Manual, 2nd Edition, 1984.
 Wilkins, E., *Clinical Practice of the Dental Hygienist*. Philadelphia: Lea & Febiger, 1983.

Prof. Ellen Brownstone, R.D.H., M.Ed.
 School of Dental Hygiene
 University of Manitoba

Answers: to Self-Assessment Test
 1. f
 2. c
 3. d
 4. d
 5. a
 6. c
 7. b
 8. b
 9. c
 10. a

The Code of Ethics for Ontario Dental Hygienists: Two Case Studies

J. Douglas Rabb, Ph.D.

In this paper I wish to discuss and, in a sense, to test the recently accepted Ontario Dental Hygienists' Code of Ethics (See Appendix) using the case study method. My purpose is to illustrate the kind of reasoning involved in judging a particular action or in making a specific decision in light of the ethical rules or moral principles layed down in this Code of Ethics. In doing so I hope to show the practical value of such a code. The Ontario Code begins with the following definition: "A Code of Ethics is a set of principles that deals with moral duties and obligations of individuals as they bear upon human relationships of one person to another." It goes on to describe itself as "a broad statement of principles dealing with the moral duties and obligations of dental hygienists towards patients, colleagues and society".¹

It will be helpful to begin the discussion with a critical examination of a recent article entitled "Ethical Reasoning in Dental Hygiene Practice". This article, by Garry Gairola and Karen Skaff of the University of Kentucky, appeared in volume 57 of *Dental Hygiene*; the journal of the American Dental Hygienists' Association in February 1983. It begins by stating that: "The nature of dental hygiene practice presents ethical dilemmas which may not be satisfactorily addressed by religious principles, codes of ethics, or laws."² It then goes on to discuss a specific example of an ethical dilemma and to propose a method, a decision procedure, for resolving such ethical dilemmas. I shall argue that the kinds of ethical dilemmas which cannot be resolved by appealing to a Code of Ethics occur far less frequently than Gairola and Skaff suggest. This I shall do by using the Ontario Code of Ethics to resolve the ethical dilemma presented by Gairola and Skaff as their example of one which cannot be so addressed by codes of ethics. I will conclude by examining one further example of an ethical dilemma showing how the Ontario Code is uniquely qualified to address even the most difficult cases.

Ethical Dilemma: Case One

The example presented by Gairola and Skaff is the following: A dental hygienist sees a patient with an

oral lesion. Suspecting the lesion may be malignant, the hygienist shares her concern with the dentist with whom she is working. However, the dentist's response is to say that he has already noticed the lesion and it is nothing to worry about. No further examination is required. Gairola and Skaff claim that this puts the hygienist in a conflict-of-duty situation. The hygienist faces an ethical dilemma. As Gairola and Skaff put it:

For example, if the hygienist... chose to take no further action (ie., does not inform the patient of her suspicions), the practitioner has essentially decided to go along with the dentist's diagnosis. Therefore, the hygienist is placing professional obligations above obligations to the patient (ie., truth telling) by following the dentist's diagnosis.³

I think Gairola and Skaff are wrong to represent this as a case which cannot be addressed by a code of ethics. Instead of attempting to resolve this problem by means of reference to a code of ethics, they present a decision procedure which involves listing the various courses of action open to the practitioner and weighing the supposed consequences of each. This they call "a consequentialist concept for resolving ethical dilemmas".⁴ Although the use of a consequentialist theory does have the advantage of producing rational decisions as opposed to producing purely arbitrary decisions, I must disagree with Gairola and Skaff when they represent consequentialism as a form of ethical reasoning.⁵ I would argue that it is at best a form of prudential reasoning, a kind of cost-benefit analysis of possible courses of action. They do not seem to realize that there is a distinction between ethical reasoning and merely prudential reasoning. The distinction is this: ethical reasoning is concerned with establishing what one's duty is whereas prudential reasoning is concerned with what is *sensible*, *wise*, or *safe* to do rather than with what we are morally obliged to do. Even if one does accept a consequentialist, or utilitarian, ethical theory in order to justify the adoption of particular codes of ethics, the simple appeal to consequences is still out of place when

applying such codes.

In other words, deciding what our moral obligations are involves much more than contemplating the possible consequences of our actions or alternatives. For example, many of the alternatives listed by Gairola and Skaff as open to the hygienist in our case study can be ruled out immediately because they run counter to the Ontario Dental Hygienists' Code of Ethics. Such alternatives include: "Tell the patient what you think without informing the dentist. . . . Record your observations in the patient's chart without informing the patient or the dentist. . . . Refer patient (keeping action secret from the dentist)."⁶ All of these suggestions clearly violate the Code of Ethics of the Ontario Dental Hygienists' Association, not to mention that of the Canadian Dental Hygienists' Association. In the section of the Ontario Code entitled Prevailing Rules and Regulations it states quite clearly that "Any member of this Association rendering services to the public must do so in accordance with the Health Disciplines Act and Regulations governing the practice of dental hygiene in Ontario and, therefore, in association with a duly qualified and licensed dentist." I suggest that rendering services to the public in association with a duly qualified and licensed dentist implies not doing things behind the dentist's back or keeping your actions secret as most of the alternatives listed by Gairola and Skaff propose. My point here is, quite simply, that these so called alternatives can be ruled out immediately by reference to the moral principles contained in the Code of Ethics without evaluating consequences at all. Is it possible to choose between other alternatives in the same way, simply by reference to the Code of Ethics itself? Point four under General Conduct states the following:

Dental hygienists have an obligation to protect the health of their patients by not taking upon themselves any service in which they are not technically competent; and to refer to the dentist with whom they are associated all patients for consultation and diagnosis.

In the light of this, some might want to argue that, since the hygienist in our case study has shared her concern with the dentist and the dentist has indicated that he has seen the lesion in question and that it is really nothing to worry about, the only alternative open to our hypothetical hygienist is to: "Abide by the dentist's decision and do nothing".⁷ This is one of the possible alternatives listed by Gairola and Skaff. Is it an acceptable one? It is certainly possible to argue on the consequentialist grounds that it is not acceptable, though Gairola and Skaff do not in actual fact present any such arguments. However, it is possible to argue that the consequences of doing nothing further might well result in a patient with an untreated malignant lesion. The consequences might well be the death of the patient. Though I agree that such consequences should be avoided, I wish to argue that a moral decision can be made in this case through reference to the Code of Ethics alone without resorting to consequentialism.

The Code of Ethics itself can show that there are at least two further alternatives which have a more pressing claim than simply accepting the dentist's decision and doing nothing. Under the section of the

Code entitled Responsibilities to Patients, it is stated in section one that "Dental hygienists have an obligation to protect the health of their patients and must, in cooperation with patient and dentist, accept responsibility for the dental health of their patients. . . . The dental hygienist's primary duty is to serve the public by providing the highest type of service of which they are capable". It is important to note that this states categorically that the dental hygienist's *primary duty* is that of serving the public, and then goes on to explain how this *primary duty* is to be discharged. It should also be noted that in order to understand completely what is meant by "providing the highest type of service of which they are capable" it is necessary to refer to section three of the same part of the Code which states: "Dental hygienists have an obligation to keep their knowledge current and skills sharpened by continuous education". I would argue that sections one and three taken together suggest that one of the two following alternatives would be an appropriate response for the dental hygienist confronted with the ethical dilemma in our case study. Both of these appear on the list of alternatives presented by Gairola and Skaff. 1. "Confront the dentist and explain your thoughts".⁸ 2. "Review the situation with the dentist once the patient has gone".⁹ The choice between 1 and 2 will depend upon the particulars of the actual situation. Obviously this is not something to be discussed in front of the patient; hence, alternative 1 can only be chosen if an opportunity arises to discuss the matter privately with the dentist. If such an opportunity does not arise, then obviously the hygienist must wait until the patient has left. The point here is that the Code of Ethics makes discussion of this matter with the dentist mandatory.

The decision procedure in the above example can be spelled out in more detail as follows: Given that the hygienist is morally committed to providing "the highest type of service" (section one), and given that this entails keeping "knowledge current and skills sharpened by continuous education" (section three), and finally given that one of the skills required is the ability to know when "to refer to the dentist . . . patients for consultation and diagnosis", it follows that, when, as in the case study in question, the hygienist's suspicion of malignancy and the dentist's diagnosis are so diametrically opposed, the hygienist, as part of the professional commitment to continuing education, is morally obliged to discuss this discrepancy in judgment with the dentist concerned.

The major point I hope to have established thus far is that the Code of Ethics of the Ontario Dental Hygienists' is quite capable of addressing the kind of moral dilemma presented in Gairola and Skaff's case study. In conclusion I shall examine one further example of an ethical dilemma in order to show how the Ontario Code is uniquely qualified to address even the most difficult cases.

Ethical Dilemma: Case Two

This example is my own. In this hypothetical case we have a hygienist working in association with a dentist who has considerable skill and is a slow methodical worker. As the practice develops and more and more patients are accepted, our hygienist begins

to notice that this dentist has begun to work at a speed which, in our hygienist's professional judgment, exceeds this particular dentist's skills. In order to keep up, our hygienist too is working somewhat more quickly than should be permitted given the moral commitment to provide the highest type of service possible. As trained professionals, dental hygienists are perfectly qualified to make such judgments. Let us assume also that our hygienist's suggestions that they both slow down a bit have been ignored by the dentist, due possibly to the fact that a cut in speed is a cut in income. What, if anything, is our hygienist to do given that day after day, week after week, work is being done by both dentist and hygienist which, though adequate, is not as good as it might be? How does the Code of Ethics help us with a case like this? The obligation to provide "the highest type of service" to the public has already been addressed. But what about the obligations to the profession? Under Responsibilities to the Profession, the Code states in section one: "Dental hygienists have an obligation to maintain the honour and integrity of the profession of dental hygiene and dentistry by conducting themselves in such a manner as to bring credit to themselves, colleagues, and the profession." The Code also states that: "Dental hygienists have a responsibility to society as well as to the individual. Dental hygienists should provide freely of their skills, knowledge, and experience to society in those fields in which their qualifications entitle them to speak with professional competence." Can this be interpreted as warranting public criticism of those practitioners who, in the professional opinion of the hygienist, do not spend sufficient time with their patients? I do not think so, and not merely on prudential grounds. Besides the obvious difficulty of defining the term 'sufficient', such an interpretation runs counter to section one, just cited, which insists on maintaining the honour and integrity of the profession of dental hygiene and dentistry through conduct which brings credit to colleagues and the profession. Further, this kind of public criticism is explicitly ruled out by section three which states: "Dental hygienists should refrain from making any disparaging comments to patients or the public about the qualifications or procedures of another dental hygienist or dentist; rather, such criticism should be directed in private to the colleague concerned and then, if necessary, to the appropriate professional body."

I have chosen to consider this case deliberately because it does not seem to be serious enough to report to "the appropriate professional body". Still it is serious and section three makes it quite clear that there is an *obligation* to discuss the situation with the dentist concerned: "such criticism should be directed in private to the colleague concerned". It is important to note that the Code does not merely permit such criticism rather, if you ever find yourself in the kind of situation described, then you are under a moral obligation to discuss the situation with the dentist concerned. You *must* do so, and it would be prudent to show the dentist your Code of Ethics and explain why you feel that it really is necessary to raise the issue. Does the Code of Ethics give any further guidance on just how to approach this difficult issue? I think it

does. Under Purpose it states the following: "This Code of Ethics is based ultimately on the principle that humanity must be treated as an end and never simply as a means. It is a broad statement of principles dealing with the moral duties and obligations of dental hygienists towards patients, colleagues and society . . ." This notion of treating humanity as an end and never simply as a means is an all important one. It is the demand that human beings be recognized as having intrinsic value and not merely instrumental value.

In the case study described above, the patients are in danger of being treated merely as a means, merely as a source of income, and this ought to be drawn to the dentist's attention. Our hygienist should also attempt to remind the dentist in question that, if fewer patients are seen, then both dentist and hygienist are likely to treat themselves less like machines and more like human beings — less like means or instruments and more like beings with intrinsic value or dignity. Surely the hygienist in our case study is under a moral obligation to attempt at least this, for the sake of the patients, for the sake of the dentist and, most of all, for the sake of herself. Dental hygienists too, like dentists, like patients, like people everywhere, have a right to be treated as ends, as genuine persons, and not simply as means. To ensure that this occurs is, surely, the fundamental purpose of any code of ethics.

About the author:

*Dr. Douglas Rabb is a Professor and chairman of Department of Philosophy at Lakehead University in Thunder Bay, Ontario P7B 5E1. Dr. Rabb's interest in professional ethics has led him to serve as a keynote speaker at Thunder Bay Dental Rendez-vous '83 and to publish papers on medical ethics in professional journals. He is also contributing editor of a book entitled **Religion and Reason** (Winnipeg, 1983) and author of a monograph and a number of articles on the history of philosophy.*

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1. THE CODE OF ETHICS FOR ONTARIO DENTAL HYGIENISTS, November, 1984.
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APPENDIX

***Code of Ethics For Ontario Dental Hygienists**

Preamble

DEFINITION

A Code of Ethics is a set of principles that deal with moral duties and obligations of individuals as they bear upon human relationships of one person to another.

PURPOSE

This Code of Ethics is based ultimately on the principle that humanity must be treated as an end and never simply as a means. It is a broad statement of principles dealing with the moral duties and obligations of dental hygienists towards patients, colleagues and society. This Code of Ethics shall govern the professional conduct of all dental hygienists. However, since no set of regulations can be designed to meet all eventualities, final judgement must come from what is excellence as it pertains to practice and conduct, the ability to know what is right and proper, and the willingness to follow such a course.

RESPONSIBILITY

Dental hygienists have an obligation to maintain the honour and integrity of the profession and to conduct themselves in all things as to bring credit to themselves, colleagues and the profession.

Dental hygienists have a responsibility to society as well as to the individual. Dental hygienists should provide freely of their skills, knowledge and experience to society in those fields in which their qualifications entitle them to speak with professional competence. Dental hygienists should be active in and available to their community, especially in all efforts leading to the improvement of dental health of the public.

General Conduct

PREVAILING RULES AND REGULATIONS

Any member of this Association rendering services to the public must do so in accordance with the Health Disciplines Act and Regulations governing the practice of dental hygiene in Ontario and, therefore, in association with a duly qualified and licensed dentist. It is the obligation of practicing dental hygienists to acquaint themselves with the current Act and Regulations regarding the practice of dental hygiene.

Responsibilities To Patients

1. SERVICE TO PATIENTS

Dental hygienists have an obligation to protect the health of their patients and must, in cooperation with patient and dentist, accept responsibility for the dental health of their patients. Dental hygienists, therefore, have an obligation to inform and educate their patients about dental health and preventive measures. The dental hygienists' primary duty is to serve the public by providing the highest type of service of which they are capable.

2. SERVICE TO THE COMMUNITY

Dental hygienists should be active in and available to their community, by providing freely of their skill, knowledge and experience in all efforts leading to the improvement of the dental health of the public.

3. EDUCATION

Dental hygienists have an obligation to keep their knowledge and skills current by continuous education.

4. CONSULTATION AND REFERRAL

Dental hygienists have an obligation to protect the health of their patients by not taking upon themselves any service in which they are not technically competent; and to refer to the dentist with whom they are associated all patients for consultation and diagnosis.

5. CONFIDENTIALITY

Dental hygienists have an obligation to honour all confidences that may be learned when rendering a service to the patient.

Responsibilities To The Profession

1. INTEGRITY OF THE PROFESSION

Dental hygienists have an obligation to maintain the honour and integrity of the profession of dental hygiene and dentistry by conducting themselves in such a manner as to bring credit to themselves, colleagues and the profession.

2. MUTUAL SUPPORT

Dental hygienists should support to the best of their ability the profession of dental hygiene through the professional organization.

3. CRITICISM

Dental hygienists should refrain from making any disparaging comments to patients or the public about the qualifications or procedures of another dental hygienist or dentist; rather, such criticism should be directed in private to the colleague concerned and then, if necessary, to the appropriate professional body.

4. ADVERTISING

a) Dental hygienists have the obligation of advancing their reputation as competent health professionals through their service to the public. The use of advertising in any form to solicit patients is inconsistent with this obligation.

b) The use of signs, announcements, letterheads and any other forms of advertising considered proper and in the best interest of the public and profession are currently prescribed by Federal and/or Provincial Legislation and dental hygienists should conduct themselves accordingly.

*Accepted by the Ontario Dental Hygienists' Association, November 1984.

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Halitosis: A Review

Reynir Jónsson, D.D.S.

Halitosis, from the Latin *halitus* (breath) and the Greek suffix *osis* (pathologic condition or process)¹, is a well known condition. Other frequently encountered terms for bad or foul breath are *fetor ex ore* and *fetor oris*.

Some authors have tried to separate halitosis and *fetor ex ore* according to the origin of the offending odour within the body; true *fetor ex ore* arising from the oral cavity and the pharynx; halitosis reflecting a more internal malady⁶. This distinction seems to have become obsolete and the terms are now used as synonyms by most authors¹⁰. According to the literature, halitosis now appears to be the preferred term⁷.

Halitosis is known in writings from pre-Biblical times^{16,17}. For example, Pliny the Younger (23-79 A.D.) wrote: "Man's breath becomes infected by the bad qualities of food, by the bad state of the teeth, and still more by his age¹⁷." In later years, Leewenhoek in a letter dated 1683 to the Royal Society of London³⁰, describes the relationship between dental bacterial accumulation and halitosis:

There are more animals living in the uncleaned matter in one's mouth than there are men in a whole kingdom, especially in those who never clean their mouths, owing to which such a stench comes from the mouth of many that one can hardly bear to speak to them. Many call this a stenching breath, but actually it is in most cases a stinking mouth.

Scientific studies on malodour, however, have only recently begun^{31,32}.

Physiologic Mouth Odours

A person's mouth odour is not constant. It varies from hour to hour, from day to day, with age^{4,15,17} and, in women, with the onset of menses^{15,17}. The human breath is normally slightly sweet^{15,17}, especially in young children¹⁵. The odour gradually becomes heavier and more pungent, but not too unpleasant, during adolescence and in young adults. In middle aged and elderly persons the breath becomes less pleasant, even offensively sour¹⁷. Due to a significant decrease in salivary flow during sleep, morning breath is normally characteristic of halitosis, even in persons

otherwise unaffected by halitosis. This morning breath is more noticeable in the elderly^{17,28}. Starvation or hunger is another source of physiologic halitosis. The intensity of the breath increases with the length of time between meals²⁸. Not only must the oral microflora, after having exhausted dietary carbohydrates, turn to human proteins such as blood and desquamated epithelial cells^{24,25} for its energy requirements, but also must the human body itself, with the ensuing ammoniacal breath¹⁷.

The Halitosis Handicap

The olfactory epithelium rapidly adapts to long-standing odours and such measures as exhaling against one's own hands, in an attempt to smell the breath, are usually fruitless^{15,17,33}. Therefore, most persons are unaware of their offending breath^{7,13,11,15,17,33}. Everett⁷ has estimated that the social handicap resulting from offensive breath leads many people to seek dental treatment, and that it ranks third as a reason for seeking care, after cosmetic considerations and pain.

The constant, often unsubstantiated, fear of offending others by bad breath coupled with one's inability to verify the existence of malodour may lead to untimely requests for extractions of all teeth¹⁷ and even true neuroses². Tremendous sales of various mouthwashes and flavouring agents⁷; constant sucking of mints and other masking substances¹⁶; avoiding direct conversation; covering the mouth with the hand while speaking; or totally avoiding other people are examples of the gradual stages of such a neurosis. It should, therefore, be obvious that halitosis, real or imaginary, can be a serious social¹⁶ as well as a potential mental handicap in our world of close personal contacts. The following quotation from Hine¹⁰, accredited to R. A. Atkinson, is an excellent example of the importance of a sweet breath:

Man is desirous of being popular as a lover and attractive to the opposite sex and the art of love (as the Caucasian usually expresses it) consists of caresses which begin with oral to oral contact. It is thus important that the breath be 'sweet' and inoffensive to the person receiving or returning these caresses; otherwise, love may be terminated before it has begun.

Methods of Odour Evaluation

i) Intensity of Mouth Odours

Although subject to error, the best instrument to determine the presence of halitosis is the human olfactory epithelium^{12,16}. "There is no machine or simple chemical test which will reveal the presence of halitosis."¹⁰ The intensity of breath odours can be recorded as mild, moderate, pungent, objectionable, or very objectionable¹⁶.

Direct detection of the intensity of mouth odours by the use of an osmoscope has been described⁴. The osmoscope is a tubelike-instrument used to serially dilute or concentrate a patient's breath with atmospheric air before it reaches the examiner. It can also be used indirectly by first condensing the breath vapours in a cryscope, a liquid nitrogen condenser through which the patient exhales for several minutes. The condensate is then incubated at 37 degrees Celsius and finally fitted to the osmoscope. Variations in the ability to perceive smell and the rapid adaptation of the nose to odours inevitably lead to high inter- and intra-examiner errors^{4,17,20}.

ii) Quality of Mouth Odours

In addition to the intensity of mouth odours, their quality is important^{10,17}. Unfortunately, no exact definition or classification of odour quality exists¹⁶. Thus, often ill-defined and confusing subjective terms such as acetonic, acrid, alcoholic, burnt, flowery, foul, fruity, garlicky, heavy, pungent, resinous, sour, spicy, sweet or uremic are inadequate descriptors having various interpretations.

iii) Head-Space Analysis of Putrescent Systems

Once a "true diagnostic guide" (Hippocrates), the nose has since been replaced by more objective methods¹⁷. More recent efforts of measuring the intensity of breath odour have taken advantage of emerging sophisticated technology, including gas chromatography^{12,13,25,26} and mass spectrometry^{24,31,32} of head-space samples. Newer methods, unlike the older ones, do not attempt to measure the total breath odour intensity. Based upon the assumption that certain substances in the breath are more relevant to halitosis than others, these methods attempt to separate and analyse those breath components²⁴.

Causes of Halitosis

i) Within the Oral Cavity

It has become increasingly evident that volatile sulphur-containing compounds (VSC) are largely responsible for halitosis of oral origin^{3,17,24,26,31,32}. Putrefaction of saliva produces VSC from salivary sulphur-containing substrates. At present, hydrogen sulphide, methyl mercaptan, dimethyl sulphide, and dimethyl disulphide top the list of suspects, while the formerly favoured indole, skatole, and amines, including cadaverine and putrescine, have fallen in popularity, and some may even inhibit odour formation in salivary samples³¹.

Food retention around the teeth as a cause of halitosis was frequently stressed in the older literature but appears to be somewhat controversial¹⁷. Chron and Drosd challenged this idea by introducing smelly substances, such as garlic, at various levels of the gastrointestinal tract, with or without any contact to the oral cavity⁶. While chewing of garlic without swallowing resulted in a garlicky breath for a short

period of time, swallowing the garlic gave positive results for up to 24 hours. Swallowing encapsulated garlic or inserting it through various artificial gastrointestinal openings similarly resulted in the substance being detected in the breath for a prolonged period of time. This, however, was preceded by a two-hour period of negative response. It was concluded that pulmonary excretion of volatile garlic metabolites was the mechanism involved and not oral retention of the garlic⁶. Haggard and Greenberg undertook a similar study and came up with directly opposite results⁹.

Other oral factors in the etiology of halitosis include coated tongue, mouth breathing, dehydration, xerostomia, wearing of dentures, smoking and healing of extraction sockets⁵. It can be seen that most of these factors have in common the ability to increase bacterial and food retention, or decrease their clearance from the oral cavity, and some factors increase the amount of leukocytes and/or blood available as a substrate for the putrefactive bacteria.

The total Sulphur concentration in saliva is only about 1.3 mM, of which 4-10% is in the form of organic sulphur compounds, mostly SH or S-S. It is this organic component which serves as the source for VSC²⁴. The saliva is poor in the sulphur-containing amino acids; their main source is from the lysis of desquamated epithelial cells and leukocytes or blood from the gingival fluid^{17,24,25}. *Fusobacteria*, *bacteroides*, and *treponemes*^{18,22} are most efficient in producing offensive smell, but other Gram negatives and mixed populations rank close³. Optimal conditions for the production of volatile sulphur compounds include neutral pH, Gram negative bacteria, and anaerobic conditions^{17,32}.

ii) From the Nasopharyngeal Region

Chronic infections as well as malignancies in the nasopharyngeal region can cause halitosis. Rhinitis, chronic sinusitis, and tonsillitis where food can decay in the tonsillar crypts³³ are frequently encountered etiological factors. Wegener's granulomatosis often is accompanied by halitosis¹. Foreign objects in the nose, especially of young children, can lead to extremely severe malodour^{8,14,29}.

iii) From the Airways and Lungs

A variety of pathological conditions of the bronchi and the lungs can result in halitosis including chronic bronchitis and bronchiectasis, and abscesses, gangrene, or tuberculosis in the lungs^{1,17}. Malignancies must also be considered when establishing a diagnosis for the underlying cause of broncho-pulmonary halitosis.

Systemic breath odours result from excretion of aromatic metabolites from the blood through the lungs⁶. The systematic breath odours tend to be of greater intensity and last longer than do physiologic mouth odours such as morning and hunger breaths¹⁷. Halitosis has been described after consuming substances such as garlic^{6,9}, alcohol¹, and certain drugs such as disulfiram (Antabuse)^{19,21}. The acetonic breath of uncontrolled diabetics and the ammoniacal breath accompanying uremia are well known examples of metabolic halitosis. Emotional crisis is also known to cause halitosis¹⁷.

Treatment

Due to its multifactorial etiology, diagnosis of the origin of halitosis is essential for its treatment. Fortunately, oral halitosis is the most common⁴ and most accessible to treat. Unfortunately, however, the success of the treatment is not always proportional to its accessibility. While improper oral hygiene is probably the most common underlying factor in halitosis, the institution of long-lasting, effective, personal oral hygiene habits is easier said than done. Frequent professional dental cleaning is helpful in controlling the problem, but it can never substitute for proper home care. In addition to conventional tooth brushing and flossing, tongue scraping or brushing^{7,20} is important as the tongue is the main reservoir for most oral bacteria, some of which may take part in the production of VSC. Other intraoral causes for halitosis are more amenable to professional treatment; a decayed tooth, for example can be repaired or extracted⁷.

Increasing the salivary flow by stimulation by eating, chewing gum, or sucking mints, or by substituting saliva with artificial saliva, reduces the number of oral bacteria as well as their substrates and end-products. Tongue brushing^{7,20} has virtually the same effect. Antiseptic mouthwashes^{20,22,27} reduce the bacterial count by retarding bacterial growth²³. Removal of dental plaque, by personal oral hygiene or by professional tooth cleaning, further reduces bacterial growth by letting in oxygen which is toxic for many of the Gram negative microorganisms. Elimination of periodontal pockets directly reduces the amount of leukocytes and blood, and indirectly prevents bacterial overpopulation by eliminating their niches. Finally, aromatic mouthwashes can temporarily mask malodour and stimulate salivation.

Summary

Halitosis affects a surprisingly large portion of the population. Many are unaware of their offending breath, while others are, justly or not, on a constant guard against it. Mouth odour changes throughout the day, with aging and various other physiologic processes, following the intake of some drugs, and with certain illnesses. All smell, mouth odours being no exception, is difficult to measure quantitatively or qualitatively.

Volatile sulphur-containing compounds produced by some Gram negative anaerobic bacteria living in the mouth may be largely responsible for bad breath. Any condition, such as poor oral hygiene or reduced salivation which favours bacterial accumulation in the mouth, may contribute to halitosis. Other important etiologic factors include excretion of volatile metabolites through the lungs, and infections in the airways.

While treatment of halitosis of systemic origin should be supervised by physicians, the more commonly occurring oral halitosis should be treated by dental health professionals. Only by introducing and maintaining adequate oral cleanliness can this social handicap be controlled.

Despite all the above, a concluding quotation from Everett⁷ is most appropriate: "Halitosis is better than no breath at all."

About the author:

Dr. Reynir Jónsson recently completed his training in periodontics and is currently working towards an M.Sc. in Oral Biology degree at the University of Manitoba, 780 Bannatyne Avenue, Winnipeg, Manitoba R3E 0W3.

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Illustrations must be clearly defined and suitable for reproduction on a reduced scale. Each picture should include a legend and should be marked in numerical order. Graphs and drawings should be drawn in Indian ink on white paper. Photographs must be glossy prints.

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The preferred length of a paper is 8-10 typed pages or 2000 words including references. Space for illustrations should be considered in the length.

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References should be lined up numerically. References to journal articles should be made as follows: last name of author followed by initials; title of article with only the initial letter of first word capitalized; full journal name followed by volume, number, first and last pages of article to which you refer, and year.

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Les textes doivent être remis dactylographiés à double interligne, sur papier 8½" sur 11"; toutes les marges doivent être d'au moins un pouce. Les auteurs doivent remettre un original et deux copies et le texte doit être soumis uniquement à L'Hygieniste Dentaire du Canada. Une page frontispice doit inclure le titre du texte, les noms, qualités et titres et postes du (des) auteur(s).

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Exemple:

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When introduced to the white spot area occurring in the early stages of tooth decay, the sodium fluoride* contained in Listermint accelerates remineralization, thereby reversing the early stages of the caries process.

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2. Listermint Provides Added Protection.

Studies demon-



fluoride rinse leads to dramatic caries reduction amongst subjects receiving optimal water fluoridation. In addition, fluoride rinse was found to greatly enhance the positive effects of fluoride dentifrice.² These studies indicate that multi-applications of fluoride have greater prophylactic value. Therefore, Listermint with fluoride is an important adjunct to your patients' current oral regimen.

3. Listermint Is The Only Mouthwash Recognized By The CDA.

Listermint with fluoride is the only mouthwash to achieve the CDA seal of recognition. The reason? Listermint contains sodium fluoride and offers significant value when used in conjunction with a conscientious oral hygiene program.

Listermint With Fluoride. Effective Protection.

*0.22 mg/mL of sodium fluoride (100 ppm fluoride ion) 1. Birkeland, J.M.; Torell, P. Caries Res. 12 (Suppl 1), 38-51 (1978). 2. Torell, P.; Ericsson, Y. Int'l workshop on fl./dental caries Res. (1974).

For further clinical information write to: Director of Professional Services, Warner-Lambert Canada Inc., 2200 Eglinton Ave. E., Scarborough, Ontario M1K 5C9.

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abstracts

Sugar, Caffeine, and Kids

Results from a randomized, double-blind study on sugar sensitivity, involving youngsters whose parents responded to an advertisement calling for grade-school students with a history of adverse reaction to sugar, seem to negate the popular belief that behavioral changes can be caused by high consumption of sugar and caffeine. Of the many responses from parents who claimed their children were hyperactive, temperamental, easily upset, and argumentative because of their sugar consumption, the field of subjects was limited to 21 pubertal boys with a mean age near 11 years.

The boys were given about 65 gm of glucose, sucrose, or placebo in random succession on separate occasions and observed and tested for 5 hours after each ingestion period.

Glucose-tolerance tests yielded normal results and cortisol levels kept stable and did not indicate stress from a sugar challenge. Motor activity and word recall ability were not significantly different after ingestion.

Participating in the caffeine test were thirty of 6- to 12-year old children, both high- (10mg/kg of body weight daily) and low-consumers. Tested was whether they select a high-caffeine diet for some reason. The findings seem to indicate that children who take in a lot of caffeine do so for the same reason it may be prescribed to them for hyperactivity — a paradoxical calming effect. [Sugar and caffeine challenges fail to support popular food-behavior link. *Med World News* 25(11):107, 1984] □

Nutrition, Diet, and Periodontal Disease

The focus of this summation are the results of human studies on the roles nutrition and diet play in the etiology of periodontal disease.

Although some nutritional deficiencies can cause changes in oral tissues, these changes are usually oral manifestations of nutritional deficiencies. Most evidence supports the concept that nutritional deficiencies, per se, are not the primary etiologic agents in gingival and periodontal disease. Rather, nutrition has a secondary role in that it can influence or alter the periodontium's resistance to the noxious agents and irritants that are primary causes of periodontal disease.

Nutrients at suboptimal levels that have most often been associated with periodontal disease are proteins, vitamins A, B complex, C, and D, as well as the minerals, calcium and phosphorus.

In some developing countries where calorie-protein deficient diets are prevalent, acute necrotizing gingivitis (ANUG) and severe periodontal disease have been observed. These diseases are explained by the synergism between disease and protein malnutrition. Several short-term studies using dietary protein supplements yielded equivocal results. Similarly, the literature is sparse concerning vitamin A deficiency and periodontal disease in humans. Only weak correlations between vitamin A deficiency and periodontal disease were noted in one country (South Viet Nam), whereas no such associations have been noted for other locations.

Also unconvincing is the evidence that vitamin B complex deficiencies (folic acid) is the cause of gingivitis or ANUG.

More research has concentrated on vitamin C but most researchers agree that vitamin C deficiency is not a contributing cause of gingivitis or periodontal disease without the presence of bacterial plaque. And, although calcium deficiency has been implicated in alveolar osteoporosis and periodontal disease, no long-term controlled studies have been done to uphold supplementation as a prevention to alveolar osteoporosis. It has been suggested that the Recommended Daily Allowance of calcium be increased from 1,000 mg to 1,500 mg to prevent osteoporosis.

Although sucrose has not been implicated as the primary cause of periodontal disease, the role of sucrose in plaque formation, especially its enhancement, and resulting gingival inflammation is well known. Sucrose contributes to supragingival plaque formation rather than to subgingival plaque formation, the primary etiologic factor in periodontal disease.

The advice to prevent caries is somewhat applicable to periodontal disease prevention. Any patients with reasonably good oral hygiene habits who do not respond to initial debridement should be questioned or asked to complete a 24-hour diet diary to determine the adequacy of their diet. And, patients should be advised to decrease the frequency of between-meal snacks high in sucrose. [Spolsky, W.W., and Wolinsky, L. Sidebar II. *CDA J* 12(9):17-18, 1984] □

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The New Brunswick Dental Hygienists' Association presents W.K. Hettenhausen, D.D.S., Executive Director of "Your Teeth for a Lifetime" Foundation, Sat. Oct. 26, 1985 at Keddy's Motel, Moncton, N.B. Open to all dental professionals. Contact Chris Robb (506) 388-4123.

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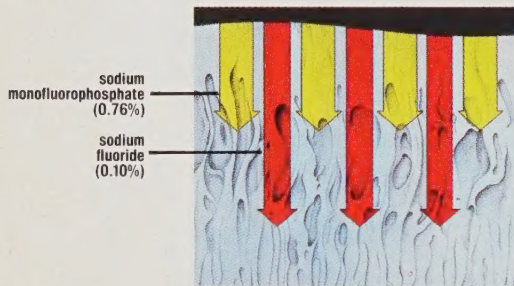
How Colgate's two fluoride formula achieves more complete remineralization resulting in nearly double the cavity protection of a single fluoride formula.*

A major role of fluoride in cavity prevention is to accelerate the process by which demineralized enamel is rebuilt.⁽¹⁻⁴⁾ This reverses white spot lesions which would otherwise become cavities.

Today's Colgate is the first toothpaste with two fluorides—sodium monofluorophosphate at 0.76% and sodium fluoride at 0.10%. Their differing molecular structures mean that these fluorides may work in different ways in tooth enamel. The result at these concentrations, is more complete remineralization of white spot lesions than either can achieve alone.

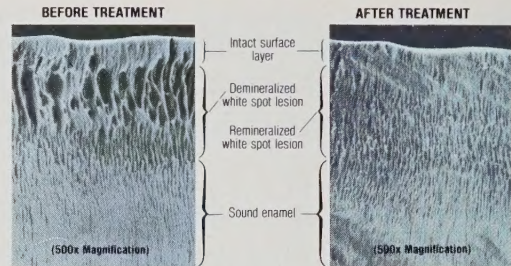
Why these two fluorides remineralize more completely.

It has been postulated that fluorides reach white spot lesions by penetrating enamel through the interprismatic spaces. Sodium monofluorophosphate, being a larger molecule, reacts with enamel primarily at the surface of a white spot lesion. Sodium fluoride, a smaller molecule, penetrates deeper into the lesion.



Working at different levels, the two fluorides may complement each other, enhancing remineralization over a greater area of the lesion than a single fluoride* alone.

This complementary action means more fluoride is available to enhance remineralization over a greater depth of the lesion than is provided by either fluoride alone.^(5,6)



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*Sodium monofluorophosphate (0.76%)

REFERENCES

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* Colgate Toothpaste contains sodium monofluorophosphate and sodium fluoride which are, in our opinion, effective decay preventive agents and are of significant value when used in a conscientiously adopted program of oral hygiene and regular professional care. Canadian Dental Association

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Fall/automne 1985, Vol. 19, No. 3

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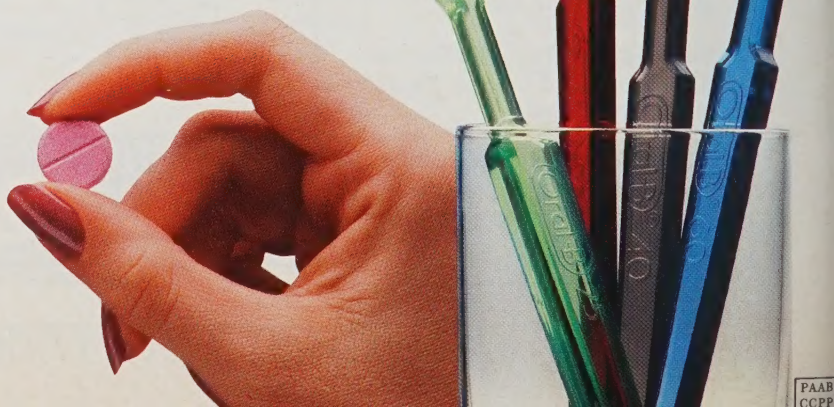


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The CDHA presently represents approximately half the dental hygienists across Canada. Members receive the voice of the CDHA in the form of *The Canadian Dental Hygienist*, a quarterly Journal. This is the key to Continuing Education information at a national level.

As a CDHA member you are automatically represented in Executive decisions regarding dental hygiene interests across the country, often decisions regarding your future.

As a group with strength in membership, an Association has influence. The importance of representation by number is evident when there is need to lobby for change. An example is the Ontario Dental Hygienists' Association struggle for full recognition in negotiations with its governing board, the RCDS.

Whether it be regional, provincial or national, every dental hygienist stands to benefit from membership in their national Association. Both in terms of opportunities for Continuing Education and in strong support for growth in the profession. It is the responsibility of all dedicated hygienists to support their professional image by membership in Canadian Dental Hygienists' Association.



Arlee Malkewich
Editor

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CDHA receives \$95,000 grant

The following letter was recently sent to Joanne Clovis, Chairperson of CDHA's Community Dental Health Committee.

I am pleased to inform you that I have approved a contribution in the amount of \$95,000.00 for the project entitled "Oral Health Resource for the Elderly".

This is in answer to the request made to the Health Promotion Contribution Program of the Health Promotion Directorate of my Department's Health Services and Promotion Branch.

The purpose of this Program is to support the development and promotion of community programs, information and education resources in the field of health promotion, through co-operative activity

with concerned government and voluntary organizations.

This contribution is extended subject to the terms and conditions agreed between the project's official representatives and the Health Promotion Directorate. These and any further details will be confirmed to you shortly, in writing, by the Directorate.

I wish to thank you for your co-opera-

tion in furthering my Department's objectives, and to extend to you my best wishes for success in your endeavours.

Jake Epp
Minister
National Health and Welfare

Nuclear issue merits debate

Bravo! I would like to express my sincere delight in finding my 'Letter to the Editor' (Nuclear Weapons Issue Addressed) in the Spring '85 Journal. Since I received rejections from the other major Canadian national dental journals, I was beginning to think that the dental community (a powerful force in health issues) was totally apathetic in matters of peace and social justice.

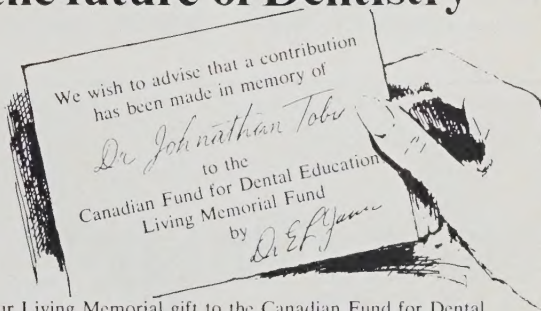
Therefore, I was very pleased when 'my' association, (the CDHA) in particular the editorial committee, cares enough about health in general to print on a controversial subject. I have received only one letter in response to my plea, from a hygienist in B.C., congratulating me for bringing the issue to the hygiene profession. I would be interested in hearing if you have any responses (good or bad!).

Thanks again...Shalom!

Melanie Fjoser, RDH
Pincher Creek,
Alberta

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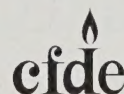


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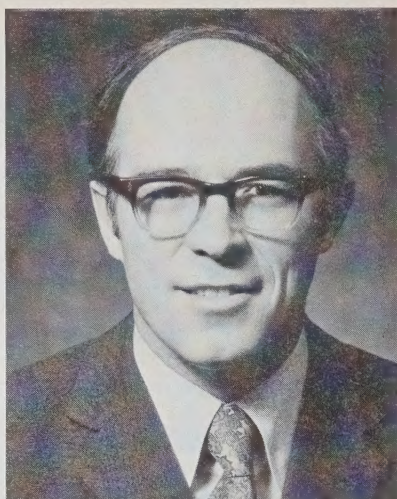
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Hygienists donate to CFDE

Now is your chance to contribute to the Canadian Fund for Dental Education. An envelope for your donation is enclosed in this publication. Last year the total income of the Fund reached a new high of \$281,852, an increase of nine per cent over 1983.

Dental hygiene educational programs received \$2,000 or, approximately one per cent of the Fund, while teacher training fellowships for hygienists and dentists were allotted \$53,700 to identify just two areas of Fund distribution.

Hygienists who contributed to the Canadian Fund for Dental Education include: Honour Members, A.M. Black, Aurora; and J.J. Dimitri, North Vancouver; and Members, S.B. Amer, Ottawa; M. Banford, Vancouver; N. Collard, Toronto; F.R. Cotton, Regina; B.J. Craig, Vancouver; B. Custance, Victoria; M.G.E. Forgay, Halifax; W.J. Gardner, Vancouver; E. Good, Kitchener; S. Haglund, Vancouver; P.M. Larder, Halifax; M.A. Leggett, Kamloops; K.F. MacDonald, Halifax; V.A. McGuire, Ottawa; M.E. McLachlan, London; L.L. Mickel-



Dr. David Peters

son, Thunder Bay; M.E. Miller, Winnipeg; E. Stradiotti, Vancouver; L.D. Stevens, Toronto; S. Sumi, Burnaby; and J.S. Voris, Vancouver.

Chairman of the CFDE is Dr. David K. Peters. Executive Secretary is Ingrid Kleysteuber.

The CFDE office is located at 234 St. George Street, Toronto, Ontario M5R 2P1. Telephone (416) 928-0484.

Radiation held in tooth enamel

Two professors at Dalhousie University are currently perfecting a technique to determine the body's total lifetime accumulation of radiation by using human teeth.

For three years Professors Barry Pass and John Aldrich have been working on extracted teeth of irradiated Haligonians and, as a control group, teeth of Botswana natives who have never been exposed to any form of conventional radiation.

Apparently, of all living human tissue, only tooth enamel retains indefinitely the history of its exposure to radiation. Teeth exposed to radiation undergo a structural change where dislodged electrons from enamel atoms become trapped in minute defects in the enamel's crystal rod formation. The tooth becomes like a radiation badge in that it can be used to measure the number of trapped electrons, which is directly proportional to the radiation dose.

Aldrich and Pass expect they will eventually be able to take readings of healthy teeth still in the mouth.

Even After Brushing
With Fluoride,
Teeth Need
The Fluoride
In Listermint.

Here's Clinical
Evidence.



McDonald remembered with Lecture fund

"In honour of Murray McDonald, CFDE's Executive Director for 15 years, the Trustees of the Canadian Fund for Dental Education have established the *Murray McDonald Memorial Lecture*," Board Chairman Dr. David Peters announced.

"Joining CFDE in 1967, Murray McDonald profoundly influenced the Fund's development until the time of his death in 1984. The lectureship will serve as a reminder of Mr. McDonald's dedicated service to CFDE and Canadian dentistry.

"While guidelines for the lectureship have yet to be established, professional enrichment is seen as the key objective.

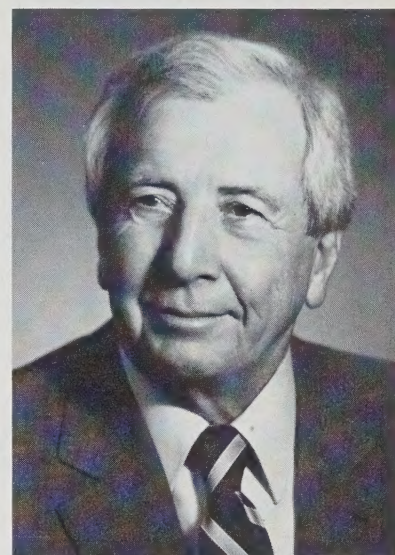
As a further tribute to Murray McDonald, the CFDE Trustees set up a \$50,000 Endowment Fund in his name. Donations received in Mr. McDonald's memory have been applied to the Fund. The income from the Murray McDonald

Endowment Fund will be used exclusively to fund the Memorial Lecture.

The first speaker to present the Murray McDonald Memorial Lecture is Dr. William F. May, Professor of Ethics at Southern Methodist University in Dallas, Texas.

Dr. May began his Canadian tour with presentations to students, faculty and local practitioners in the four Western Provinces last spring. He will present the Murray McDonald Memorial Lecture at the 1985 Winter Clinic of the Toronto Academy of Dentistry in November, at which time he is also scheduled to speak at the Universities of Western Ontario and Toronto. Dr. May will complete his tour with visits to the Universities in Quebec and Dalhousie University in the spring of 1986.

The title of Dr. May's presentation is "The Intellectual and Moral Marks of the Professional".



Murray McDonald

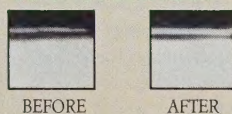
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to work the same way.⁵ It acts to accelerate the remineralization of white spot lesions, reversing the demineralization process.

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†Listermint with fluoride contains sodium fluoride which is, in our opinion, an effective decay preventive agent, and is of significant value when used in a conscientiously applied program of oral hygiene and regular professional care. The Canadian Dental Association.



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†neutral pH. 0.22 mg/mL of sodium fluoride (100 ppm fluoride ion) 1. Torell, P.; Ericsson, Y. Int'l workshop on fl/dental caries red. (1974). 2. Ripa, L.W. JADA 102:477-481 (1981). 3. Birkeland, J.M.; Torell, P. Caries Res. 12 (Suppl 1): 38-51 (1978). 4. Driscoll, W.S.; Swango, P.A., Horowitz, A.M.; Kingman, A. JADA 105:1010-1013 (1982). 5. Koulourides, T. Data on file Warner-Lambert Canada Inc. 1985.

PAAB
CCPP



Arlee Malkewich

New Editor for CDHA

Arlee Malkewich has been appointed the Editor of the Canadian Dental Hygienist.

A graduate of the Dental Hygiene programme at Algonquin College in Ottawa, Arlee also has a Bachelor of Arts in Psychology from the University of Victoria in British Columbia.

While she was at Algonquin, Arlee successfully wrote the American Dental Association Dental Hygiene Board exam at McGill University.

Since graduating from Algonquin College in 1984, Arlee has been employed in a

prevention-oriented private general practice in Ottawa.

As Editor of the Canadian Dental Hygienist, Arlee looks forward to the challenge of continuing the publication in the tradition of excellence established by previous editors.

CFDE supports profession

October is CFDE month.

A recent report from Dr. David Peters, Chairman for the Canadian Fund For Dental Education, states that the Fund "has now provided over two million dollars for the benefit of dentistry".

Since its inception in 1964, the Fund has moved steadily forward from a modest \$5,000.00 in grants to "an investment of over \$200,000.00 in dental education and research for one single year in 1985."

The Fund has furnished dozens of programmes, all aimed at advancing the profession, with more desperately needed help every year. These programs include providing highly qualified teachers and researchers for the nation's dental schools; assistance for dental students and auxiliaries; funding of research, teaching and preventive dentistry conferences and increasing public awareness for dental care.

"1985 truly marks a milestone in the Fund's history — two million dollars invested in dentistry to date and a record total of over \$200,000.00 approved in grants for payment in one year!! My fellow Trustees and I are deeply grateful to the Fund's many supporters who made it all possible. With everyone's help in the years ahead CFDE will continue to play an increasingly significant role in the development of our profession," said Dr. Peters.

UBC ends hygiene course

Joan Voris of Vancouver, B.C., a dental educator for the past 25 years, has confirmed that effective June, 1986 the University of British Columbia will discontinue its diploma Dental Hygiene programme permanently.

The dental hygiene curriculum is being dropped as part of the University's restraint moves. As a diploma programme University administrators felt Dental Hygiene belonged at the Community College level, although no host college has been named.

Joan Voris says this move by the University is "extremely political" and that its long term effect on the future of dental hygiene in B.C. is "devastating". She added that "educational mobility for dental hygienists will be stifled at the college level." In other words, when seeking a move along the employment ladder into other related fields, educational barriers will exist since diplomas are not considered desirable educational background for certain positions.

Ms. Voris expressed her concern that the possibility of obtaining a Baccalaureate degree in Dental Hygiene or Dental Public Health will be thwarted as a result of the move to the Community College level. For example, hygienists educated in B.C. after June, 1986 will have to seek studies outside of the province in order to strengthen their educational background.

The University Dental Hygiene program is accepting first year students for its 1985/86 calendar year. However, these students will be forced to transfer to the

appropriate community college to complete their studies. The difficulty here, Joan points out, lies in the fact that most people, when deciding on a given field, devote a great deal of time to long-range planning. Not knowing where they will complete their studies gives way to all sorts of problems such as housing, moving family and seeking part-time employment.

Another negative effect of the cutback lies in the revelation that setting up a program comparable to the one at UBC takes intense planning to ensure a high standard of quality of clinical experience. Critical planning is necessary to select appropriate locations, hire qualified teaching staff and to organize course outlines and requirements. It remains to be seen if this major task can be accomplished in the short span of one year without some aspect of high standards being overlooked.

However, this isn't to say that dental hygiene does not belong at the College level. There are many excellent Community College programmes in operation all across the country. As Ms Voris suggests, after much thought and resolution, Dental Hygiene belongs at both levels—University and College. At the College level it would mean easier access for potential applicants throughout the province and, at the University level the opportunity for educational advancement would exist, making employment mobility a possibility to those interested in furthering their interests and career.

Membership renewal notices

Membership Renewal Invoices were sent out September 25, 1985. If you have not received yours please notify us at 1320 Carling Avenue, Ottawa, Ontario K1Z 7K9.

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Audrey Newcombe takes office

CDHA President plans a busy year

EDITOR: You have come to know a lot about the inner mechanisms of the Canadian Dental Hygienists' Association as First Vice President and then as President Elect. How would you describe the working order of this national body?

PRESIDENT: We cooperate very well. It's amazing, considering we bring together people from all over the country with regional interests, how smoothly we have been able to transact the business of the Association. This year, especially, we've had a very smooth Board meeting. We've interacted very well. We're practising the concepts of lobbying and caucusing and we're developing into a fine business working group.

EDITOR: Do you see the national Association as a microcosm of the Canadian political identity as a whole?

PRESIDENT: Not really. We have our own regional interests, but for hygienists these concerns vary from the regional interests of the whole country. There are bound to be a few overlapping areas of conflict, but as a whole, regional concerns that may affect CDHA are based on professional interests.

EDITOR: Where did you study to become a Hygienist and when did you graduate?

PRESIDENT: I attended the University of Manitoba and graduated as a Registered Dental Hygienist in 1974. I grew up in Manitoba, but my husband and I run a farm in Prince Edward Island now. My children are fifth generation Prince Edward Islanders. I work full time with the Children's Dental Care Program but I'm also active in Home and School. I'm on the Board of Directors of the Canadian Figure Skating Association, PEI section, and I'm active on the Advisory Council on the Status of Women in the province.

EDITOR: What do you perceive to be the role of CDHA Directors? Are they representatives of individual provincial bodies or should they function as members of an autonomous Board, in essence running a Corporation with national influence?

PRESIDENT: We passed a Resolution at this year's Board meeting that states that



Audrey Newcombe

Directors are now funded by CDHA for 100 per cent of travel and accommodation. This decision is based on the philosophy that Directors are national representatives who get together to run CDHA and I think the spirit of cooperation is such that this attitude will prevail.

EDITOR: Has this attitude of cooperation been something you have been able to see grow since you joined the Association 11 years ago?

PRESIDENT: There has been a definite maturity.

EDITOR: You have used the word "paraprofessional" to describe hygienists...

PRESIDENT: That's the technically correct term. We're considered professionals by a lot of people and we certainly appreciate that, but the technically correct term is "paraprofessional".

EDITOR: CDHA has now been Incorporated. What does this mean in terms of Association Bylaws, for example, and can we talk about the issue of alternate representatives to the Board.

PRESIDENT: Incorporation has been a special project to me over the last year and a half. We have addressed this step several times and it appeared that it would be costly in incorporate. When I took the project on, we had to decide whether or not we really needed to be incorporated, look at the cost and then look

at ways to facilitate the procedure.

Incorporation means that we are a complete legal entity. We have rental property, we sign leasing agreements, we have employees. It's much more business-like to be a legal body and it protects us as individual members of Executive Council.

Incorporation also required us to change certain terms in our Constitution. We had to eliminate the designation "alternate delegate", for example. This (having alternate Directors), is illegal. Consumer and Corporate Affairs Canada views a Director as one person with one vote. If that person can't attend a meeting, unless there's a proxy system in place, she can't vote. That Director must resign and a new representative must be elected to attend the Board meeting.

We also had to alter our view of "members". Now we recognize our constituency members (the provinces, for example) who in turn represent individual members. Consumer and Corporate Affairs told us which clauses in our Constitution should be altered for Incorporation and we changed them according to recommendations made.

EDITOR: Was this a lengthy process?

PRESIDENT: It took longer than I had expected. I got approval at the 1984 Board meeting to go ahead with the project. Our application was in process at Consumer and Corporate Affairs for well over six months before it was finally approved, but they also advised us on the legal aspects. That's probably what took the time.

EDITOR: Does CDHA now have a Corporate Seal?

PRESIDENT: Yes. According to our Constitution, it's in the possession of the President. The President's business address is at our National Office. That's where the Corporate Seal will be retained.

EDITOR: What are your priorities for CDHA over the coming year of your Presidency?

PRESIDENT: I want to develop a long-term plan stating the goals and objectives of the Association. We have settled a lot

of long standing issues this year — incorporation, restructuring — and we're assessing the National Board Examination process, but what we have to do is establish a long-term plan. We have to decide where we want to be in five years' time, set objectives, and then develop a plan to implement these objectives. We must assess our budget and address the practice of priority spending. Presidential travel is limited because of money and I think the President should visit every province. CDHA and hygienists individually should take a higher profile. I think we're very, very important and it's about time we stood up and said it. We're team members, we're well-educated, we're well-versed on dental issues and I really feel it's time we started realizing, ourselves, how important we are. It's important that we consciously develop our professional image to correspond with that profile.

EDITOR: You mention the time frame of five years. Has there been an Executive decision to lay down a five year plan?

PRESIDENT: Yes. Realistically, changes are not made overnight. It may take the best part of this year to decide what the priority issues are. Then we need to plan how to do things and finally, we must implement policy. I'm a great believer in taking one step at a time. Our philosophy has a part in our planning process too, and we must be flexible enough to be able to take into consideration changing issues as times change around us. "Five years" is not a period that's written in stone, but it gives us a place to start. It's a time frame people can relate to.

EDITOR: Would you please explain the restructuring of the Board of Directors of the Canadian Dental Hygienists' Association.

PRESIDENT: Our research into Incorporation had revealed some interesting facts about the size of our Board and the way in which it worked. It drew attention to the fact that we needed an internal reorganization. I have a philosophy that an Association cannot be externally effective until it's internally efficient.

We started our reorganization by looking at Boards of other Associations with which we had something in common — professional interests, size. Our Executive Director, Carol Worobey, attended workshops sponsored by the Institute of Association Executives. The result was that we began to realize that we were overruled. Compared to other organizations' population to administration ratio, ours was quite high. We had a lot of people administering a rather small group. This, of course, was a reflection of the fact that in the beginning, CDHA did not

have many members. Because we have grown, it became necessary to look at this situation with a critical eye. We made the Resolution to the Board that we define our representation as one Director for every 250 members. Previously, it had been one Director for every 100 members. The ratio of 1:250 was recommended by the Institute as equitable based on the size of our Corporation. I was pleased to get Board support on this.

With this reduction in Board size, came the need to reduce the size of Executive Council. This was a difficult issue to address because of the work load shouldered by members of Executive Council. We were afraid that if we took away Executive members, those left would end up doing even more work. Our Central Office came to the rescue and, with our new computer services, took on the job of bookkeeping. This lifted a lot of the work from the position of Treasurer. Treasurer will evolve into a position that is really just a co-signing authority and a presenter

1985 Convention Sponsors

Organized by the CDHA Convention Committee chaired by Dale Scanlon, the 1985 Annual Convention, September 29 to October 2 in Ottawa, was a great success.

Delegates enjoyed a full scientific program while major exhibitions in the Ottawa Convention Centre rounded out the meeting which attracted hygienists and students from across the country.

Following the organizational efforts of Debbie Lang, Corporate Relations Director for CDHA, industry sponsors from within the dental products and equipment fields contributed towards the success of the Convention. The Canadian Dental Hygienists' Association thanks the following: Colgate Palmolive (brunch sponsors); Horner (cruise sponsors); Block Drugs; Oral B (dental kits); Teledyne Water-Pik; Healthco; Johnson & Johnson; Lever Detergents; L.D. Caulk; Cocoa Cola; Kerr; Halbrand; Lux & Zwingenberger; Beecham; Surgikos; Butler; Trident Dental Centres; Denco; Hu-Friedy (dental instruments).

The Convention would not have been the success it was without the contributions from these companies.

of our Budget at the Annual Meeting. So the position of Treasurer has been essentially eliminated, something which a lot of other Associations are doing also. The Past President's vote on Executive Council has also been removed but the Past President has been retained as a valuable resource person for the Board. This means that our Executive Council structure is now at four voting members — President, President Elect, First Vice President, and Secretary. The duties of the Treasurer have been assumed by the President Elect.

EDITOR: Where are you in your career as a Hygienist?

PRESIDENT: I'm a full time hygienist, as I said earlier. One of the reasons I let my name stand for nomination to Executive Council is that I felt that sometimes as a national Association we tend to forget the little guy, the clinical practitioner. I like to call myself Ms Grassroots Hygienist. That's exactly what I am — I work five days a week in a clinical practice for public health and I think I go through the same agonies and frustrations other Hygienists go through at times. There are joys too. I really enjoy my work. I've always been tremendously proud of my profession and I thought that working within CDHA would be a way to give back to Dental Hygiene all the good things my profession has done for me.

EDITOR: You anticipate a busy year . . .

PRESIDENT: I do. There's a lot of travel. I've already had invitations to visit Newfoundland and Nova Scotia. New Brunswick has also invited me to visit. I will be representing Canada at the American Dental Hygienists' Association meeting in Washington, D.C. next June. I also hope to travel with my family to the International Symposium in Oslo next year.

EDITOR: Why will you not be the official representative of CDHA in Oslo?

PRESIDENT: We have official representatives on our International Liaison Committee who will be funded to go.

EDITOR: Do you have any trips to the West planned?

PRESIDENT: That's a problem for me. Travel funding for the President has always been limited. I don't see being able to get to Western Canada but I would certainly like to. This touches on an issue I want to address this year as President. We should perhaps realign our budget priorities so that more money is allotted for the President to travel and therefore be more visible in each province. It's asking a great deal, personally, from the President to do this, but I think something like a Canadian tour would be appropriate.

Main finds Chinese students "well-informed"

I was lucky enough to visit China as the guest of the Chinese Government this Spring. I spent 4 weeks in Sichuan Province (population 100 million) working at the Stomatology Hospital of Sichuan Medical Centre, now the West China Medical College.

Dentistry in China is very similar to Dentistry in the Western World. The students attend Dental School for 5 years and then have an intern year prior to completion of their degree. This is a necessary part of the curriculum since the 5 years are almost totally theoretical with little or no patient or clinical exposure. The students are all very well read and current in all fields of dentistry with the exception of Preventive and Community Dentistry.

In Sichuan Province, Preventive Dentistry was not practised or taught until last year. Now there is a Department of

Prevention in the Dental School staffed by 9 dentists who essentially run the department as a paedodontic/orthodontic service while they develop a curriculum guide and some form of community programs.

The Department Head was most interested in all aspects of Community Dentistry as practised in Canada. He asked me to give demonstration clinics on the use of sealants, topical fluoride therapy, and acid-etch composites (especially important since 10% of the children in Sichuan Province have tetracycline staining and considerable numbers have enamel hypoplasia.) Other areas of interest included the manufacture of toothbrushes and toothpaste. The Dental School makes its own brushes and paste using a mixture of fluoride and chlorhexidine with wintergreen flavouring. They were very taken with the "pump" instead of the tube to dispense toothpaste.

Community endeavours to date included a survey of 100,000 children using the W.H.O. assessment form and C.P.I.-T.N. (Community Periodontal Index of Treatment Need) following standardization by David Barmes and Stephen Wei. All children identified as in need of care were offered services and some 3,000 had been completed by this Spring. However, dental health status was good: almost no caries in the permanent teeth and low levels in the deciduous teeth, while the periodontal disease levels at age 8 and 12 years were considerably less than in a Toronto Chinese population. I was myself able to examine and record dental health status for 100 children (age 8 and 12) and was able to confirm that the dental health status was as high as they had found in the survey.

Classroom education for school children and daycare attenders was not being provided. I spent several days giving such sessions in schools and daycare centres, as demonstrations of the provision of education in both small group and classroom settings. These, they felt, should be one and a half hours minimum. One of the hardest concepts to teach them was that children have a short attention span, and cannot absorb for even an hour. Also, have you ever tried to teach in another language without any visual aids? You can become very inventive! I was able to use some of the animals in the daycare centre, squirrels and rabbits as good role models. Nutrition and good

eating habits also are hard to cover, when you do not even recognize the foods that the children eat.

During my 4 weeks in Chengdu, I was asked to give several lectures and seminars. The lasting impression I have is of enthusiastic, well informed, happy students with a thirst for knowledge unequalled in the West. They think nothing of sitting through 2 hours or longer, and usually plied me with questions for another hour.

"10% of children ... have tetracycline staining ..."

Despite a fairly heavy commitment to teach in the Preventive Dentistry Department, I was able to make some side trips to the countryside. I visited Mt. Emei and Leshan about 175 kilometres south of Chengdu. Mt. Emei is one of the most beautiful areas in China, a vast mountain range, heavily treed and farmed, with peaks at 40,000 metres. It is ethereal with the peaks ringed with mist, and the views are breathtaking. Another interesting day was spent at the massive irrigation dam about 80 kms. from Chengdu, built in 200 B.C., by an engineer called Li Bing, which totally changed the agricultural value of the whole plain.

We left China through Beijing and spent a wonderful day at the Great Wall and the Ming Tombs. After 4 weeks deep in West China, relatively close to the Tibetan Plateau, Beijing was CIVILIZATION!

Our last days in the Mysterious East Were enjoyed in Hong Kong. What a wonderful city! Everyone should visit for at least 2 weeks. The shops, shipping, and scenery are breathtaking.

I am not rushing back to the People's Republic of China, but I do want to have another chance at probing the oriental mind. Maybe in a couple of yuears or so.

Reprinted with the kind permission of Dr. J. W. Shosenberg, Editor CSPHD Newsletter (Summer '85) and the author, Dr. P. Main, Director, Dental Services, North York, Ontario.

New brochure is in Cree

Many native communities in northern Canada show prevalence rates of 80-90% for bottle-carries among pre-schoolers. The almost universal occurrence of this destructive process has created an acceptance of the condition, in the mind of many, as a 'normal condition' of the desidious dentition.

The University of Manitoba Outreach Awards has funded a project for the development of brochures to create an awareness about bottle-carries among native communities in northern Canada. The brochure will be tested for effectiveness by distribution among Cree-speaking communities. It will be directed at mothers to encourage a reduction in inappropriate feeding practices and increase the seeking of preventive or treatment services.

The brochure illustrations will feature native persons and the information is written in both Cree-syllabic and English in an effort to present the information within the local cultural setting and assist in the group's identification of the problem.

Sample copies of the brochure will be made available upon request.

A CDHA National Survey The Canadian Dental Hygienist Distant Learner

Mickey Emmons Wener,
R.D.H., B.S.

INTRODUCTION

Continuing education has been defined by the Canadian Dental Hygienists' Association (CDHA) as the education of the individual beyond basic preparation for dental hygiene practice. It includes both informal and formal activities that update, refresh and increase the knowledge and competence of the dental hygienist¹. Dental hygienists, like other professionals, face a variety of barriers which may affect their continuing education behaviour. The focus of this survey is on the geographic separation of the dental hygienist from major learning resources such as continuing education courses, dental learning centres and other professionals.

Of the 4,803 Canadian dental hygienists², 968 live at a distance (80 kilometers or more) from urban learning centres. Many of the efforts of continuing education providers have been directed toward the population that has ready access to opportunities offered in metropolitan areas. This practice tends to isolate individuals in rural areas. Providers are attempting to increase the accessibility the distant learner has to resources through innovative planning, the development of self-study materials and correspondence courses, and the utilization of communication technologies such as teleconferencing and satellite courses³.

Providers need detailed information about the population they are serving in order to offer relevant, cost-efficient opportunities for learning. In response to this need, the Continuing Education Committee of the CDHA conducted a survey to provide a perspective on the demographics of dental hygienist distant

learners and their perceptions of the availability and suitability of current learning resources. These data in combination with additional information gathered from pertinent local and national sources could then be used to help each province better meet the needs of their distant learners.

METHODOLOGY

In the fall of 1982, a survey package was mailed to the ten provincial continuing education chairpersons. The package included the rationale for the survey, the protocol for sampling,* directions for implementation and reporting, the cover letter, the remainder letter, the 21-item questionnaire entitled "Distance Continuing Education Needs Assessment", and the data summary sheet. Each province was responsible for duplicating and mailing the questionnaire and completing the data summary sheet. Costs, including a self-addressed stamped envelope, were covered by each province. The CDHA financed costs incurred at the national level.

Each province determined its population of distant learners based on two parameters:

1.) A "learning centre" is a location

**Provinces with few distant learners (under 100) were asked to survey all, those with many distant learners (over 100) random sampled. Due to this variation in sampling, provincial results are generalizable to that province, but results analyzed on a national basis have somewhat limited generalizability.*

where the majority of continuing education courses are given in the province and may also be where other resources such as a dental library, school of dental hygiene, or faculty of dentistry are located.

- 2.) "Distant learners" are dental hygienists who live 80 kilometers or more from a learning centre, regardless of their employment setting or association affiliation.

Utilizing these parameters, 968 distant learners were identified across Canada. Provinces differed greatly in number of distant learners, from 320 in Ontario to nine in Saskatchewan.

The provincial summary sheets and the completed questionnaires were mailed to the national continuing education chairperson for coding and analyzing. Data analysis was done by the Department of Biostatistics, Faculty of Dentistry, University of Manitoba, utilizing the Statistical Package for Social Sciences program to produce descriptives and relational or comparative statistics.

RESULTS

The distant learners were surveyed by

the provincial chairpersons from January to July, 1983. Of the 474 sampled, 263 questionnaires were returned, a response rate of 56 percent. Response rates varied from 83 percent in New Brunswick to 42 percent in Quebec. **Table 1** reports the provincial distribution of distant learners.

Demographic Profile

The distant learners ranged in age from 20 to 58 years with a mean age of 29 years. They completed their dental hygiene education from 1953 to 1982, 76 percent graduating since 1973. The majority of the sample held a diploma as the highest level of education (93 percent). Eighty-five percent were employed in a dental setting, 14 percent were unemployed, and 1 percent were in a non-dental setting. Of those employed, two-thirds indicated they were full-time and one-third part-time. Private practice was the most common employment setting, accounting for 63 percent, followed by public health (23 percent). Provinces differed significantly in employment settings, with Prince Edward Island and Alberta reporting the greatest percentage of public health positions.

Distant learners lived from 80 to 1600

kilometers from the nearest learning centre, with a mean distance of 270 kilometers. Almost half were clustered around the learning centres in an 80-180 kilometer radius. The differences among provinces were significant. Ontario had the greatest percentage of distant learners living closer to the learning centres, 80 — 180 kilometers, followed by Quebec. Newfoundland and British Columbia had a greater proportion of learners in outlying areas, over 381 kilometers from the nearest learning centre. The geographic distribution of the learners is shown by province in **Table 2**.

Continuing Education Courses

Half the respondents reported that no continuing education courses for dental hygienists were available in their geographic area (within 80 kilometers of their home) in the past 12 months. The mean number of courses available was 1.5, with one-third stating that there were one to five courses. Forty-five people did not respond to the question, many stating that they did not know this information. Course attendance was positively and significantly correlated with the number of courses perceived available.

The number of courses available within the geographic area varied among provinces. Distant learners in British Columbia reported the highest availability and attendance of courses. These respondents frequently mentioned the "Knowledge Network", a satellite broadcast for dental and dental hygiene continuing education courses.

Respondents were asked to rate on a five point Likert scale how important six given criteria were when deciding to attend a continuing education course. "Subject of course" received the highest priority, followed by "distance from home". The distance the dental hygienist lived from the learning centre appeared to have no effect on the priority they gave to "distance from home". The factors having the lowest priority for selection were "cost of course" and "employer's demands" (**Table 3**).

Almost 40 percent of the distant learners stated that they would be willing to travel over 120 kilometers (with other variables permitting). Those willing to travel over 120 kilometers increased as the distances from the learning centre increased. The provinces differed in the distance dental hygienists were willing to

Province	Number of Distant Learners	Number Surveyed	Number Returned*
British Columbia	210	44% (92)	58% (53)
Alberta	135	63% (85)	60% (51)
Saskatchewan	9	100% (9)	67% (6)
Manitoba	18	100% (18)	78% (14)
Ontario	320	25% (80)	48% (38)
Quebec	165	48% (79)	42% (33)
New Brunswick	12	100% (12)	83% (10)
Nova Scotia	60	100% (60)	50% (30)
Prince Edward Island	16	100% (16)	75% (12)
Newfoundland	23	100% (23)	70% (16)
TOTAL	968	(474)	(263)

*Response Rate = $\frac{263}{474} = 56\%$

TABLE 1: Distribution of Distant Learners Centre by Province

travel. This was most likely influenced by the proximity of learning centres or geographically accessible learning resources.

Over 30 categories of preferred topics were given by the distant learners. The five categories given most frequently as the number one preference in descending order were: Periodontics; Preventive Services; Orthodontics; Public/Community Health; and Nutrition.

Topic preference was influenced significantly by the employment setting. Private practitioners were most interested in periodontics and preventive services while those employed in public health were most interested in topics such as classroom education or public awareness of oral health. Topic preference was not affected by the distance the dental hygienist lived from the learning centre.

To provide additional information on potential topics of interest, respondents were asked to identify and rank their top three problems at work. The three cited most frequently were:

1. Knowledge/Skill Problems — dental hygienists desired more knowledge or skill based on patient's problems, new products on the market, or a desire to be updated.
2. Employment Problems — respondents cited problems that rise within the employment setting such as relationships with co-workers, time management, not feeling appreciated and lack of proper equipment.
3. Patient Motivation Problems — dental hygienists focused on the problems encountered in motivating patients to become responsible for their own health, facing apathy and dental ignorance, receiving no feedback and seeing no improvement at recalls.

Self-Study Materials

Distant learners were asked if they had access to self-study materials. Responses were divided between "YES" (135) and "NO" (124). Among those who answered "YES", 86 percent reported they utilize available self-study materials. Perceived availability of the materials significantly affected their usage. There were 43 comments following this question, 79 percent stating that use was limited due to factors such as the poor quality of available materials, lack of material availability, and various time and financial constraints. Provinces differed with regard to

the availability of self-study materials. Manitoba reported the highest perceived availability.

Distant learners reported journals to be the most frequent source of self-study. Materials provided by their employer and libraries ranked second and third.

Usual Method of Learning

When asked which statement best described their choice of action when they wished to learn more about a subject, the majority of distant learners (51 percent) reported that they "discuss with co-workers/other professionals". More reported that they "select materials you can

study at home" (19 percent) than those who "take a continuing education course" (15 percent). This was closely followed by those who did some combination of the above. Several of the comments indicated that what the dental hygienist did differed from what she would prefer to do, due to perceived availability and access factors. The distance the dental hygienist lived from the learning centre appeared to have no discernible affect on their usual method of learning. For example, dental hygienists living further from the learning centre did not seem more prone to use self-study materials or less prone to take continuing education courses.

Province	8 — 180 km	181 — 380 km	381 — 1600 km
British Columbia	37% (18)	14% (7)	49% (24)
Alberta	38% (18)	49% (23)	13% (6)
Saskatchewan	17% (1)	83% (5)	0% (0)
Manitoba	43% (6)	43% (6)	14% (2)
Ontario	80% (28)	11% (4)	9% (3)
Quebec	65% (20)	16% (5)	19% (6)
New Brunswick	44% (4)	44% (4)	12% (1)
Nova Scotia	45% (13)	38% (11)	17% (5)
Prince Edward Island	9% (1)	82% (9)	9% (1)
Newfoundland	12% (1)	25% (2)	63% (5)
TOTAL	(110)	(76)	(53)

TABLE II: Distance of Dental Hygienists from Learning Centre by Province

Selection Factors	High Priority	Neutral	Low Priority	Totals*
Subject of course	97% (251)	3% (8)	0% (0)	(259)
Cost of course	45% (113)	31% (79)	24% (61)	(253)
Employer's demands	42% (101)	36% (88)	22% (53)	(242)
Distance from home	82% (209)	11% (28)	7% (18)	(255)
Location of course	64% (159)	22% (55)	14% (36)	(250)
Reputation of instructors	50% (120)	38% (91)	12% (30)	(241)

*Totals represent the total number who responded to each factor

TABLE III: Selection Factors for Continuing Education Courses by Priority Ranking

Ability to Satisfy Continuing Education Needs.

The respondents were asked how satisfied they were with the continuing education courses and self-study materials available to them. Replies were distributed as follows:

- 8 percent — I am able to satisfy all my continuing education needs with no difficulty.
- 32 percent — I am able to satisfy all my needs, but it is sometimes difficult.
- 54 percent — It is very difficult to satisfy my continuing education needs.
- 5 percent — No response.

The ability of distant learners to satisfy their continuing education needs was influenced significantly by the perceived availability of both continuing education courses in the geographic area and the accessibility to self-study materials. As more courses and self-study materials were available, a greater percentage reported they were able to satisfy their continuing education needs with no difficulty. Ability was not significantly related to how far dental hygienists were willing to travel, how far they lived from the learning centre, or by their employment setting.

Suggestions for Improving Continuing Education for Dental Hygienists

The majority of distant learners (97.7 percent) indicated they would like to see improvements made to the present continuing education system. Given three choices and an opportunity to insert their own suggestions, "more courses than currently offered in my geographic area" was given first priority by 65 percent of the

distant learners. This was followed by "greater accessibility to self-study materials" (20 percent) and an "opportunity to meet more frequently with other dental hygienists" (8 percent). Comments indicated that increased quality of properly targeted courses was desired, not simply increased quantity (Table 4).

DISCUSSION

The Sample

The survey results appear to support the arbitrarily chosen distance used to identify "distant learners". Living 80 kilometers from the learning centre was chosen as the criterion because a round trip of approximately two hours travelling time was seen as constituting a barrier. Few commented that distance was not a problem and several stated that an 80 kilometer distance could consist of more than two hours travel time and considerable expense where individuals lived on islands and had to fly or ferry to the mainland.

Learning Content

Though the majority of distant learners were employed in private practice, they were more likely to be employed in public health positions (23 percent) than the general dental hygiene population (approximately 10 percent).⁴ The desire to apply or use new knowledge to tackle problems faced in one's everyday life is a major motivator for embarking upon a learning experience.⁵ To increase participation in continuing education, distant learners' employment profile should be taken into account due to its effect on topic preference, private practitioners

having distinctly different needs than those employed in public health. As well, many continuing education courses have centered around patient problems with few dealing with the issues identified by many of the distant learners, categorized as "employment problems". Planners are advised to explore this potentially neglected area of continuing education. Courses such as "How to be a Change Agent", "Time Management", or "Employment Negotiation Skills" are only a few possibilities.

The topic and the quality of the education experience, as identified by the criterion "subject of course", was given an over-riding priority over the remainder of criteria, even "distance from home". Especially for those distant learners who are willing to travel over 120 kilometers or who are clustered around learning centres, one can speculate that if the subject were very important to the learner, that distance would not likely prevent the dental hygienist from engaging in the learning experience. Carr et al. surveyed dental hygienists in 7 states in the United States and had comparable findings.⁶ Subject ranked first and distance was tied with cost for second. Over half of their sample was employed in cities with populations of 100,000 or more. Subject and distance are obviously important to both distant and non-distant learners.

Learning Resources

Dental hygienists' ability to meet their continuing education needs was influenced significantly by their perception of the availability of resources, particularly courses and self-study materials. Provinces would be advised to determine if a difference exists between the learners' perceptions and what is actually available. Efforts should then be made to ensure that the target population is aware of what is currently available. If the respondents' perceptions are accurate, half reporting no access to courses in their area or to self-study materials, planners should work toward increasing availability in a cost-effective manner.

Although distant learners want more continuing education courses, their most common form of learning was discussion with a co-worker or other professional. Continuing education planners must taken into account that much learning takes place outside of formally offered courses. Providers should work toward enhancing their helping and networking

Improvements	#1 Priority	#2 Priority	#3 Priority	Total % of Sample
More courses in geographical area	65% (172)	19% (49)	2% (6)	86% (228)
Greater accessibility to self-study materials	20% (53)	24% (64)	14% (37)	58% (154)
Opportunity to meet more frequently with other dental hygienists	8% (20)	23% (60)	18% (46)	49% (129)

TABLE IV: Ranked Suggestions for Improvements

skills by increasing the dental hygienist's access to experts, peers and non-human resources.

Journals were the number one source of self-study materials. They could be used innovatively to further promote continued learning by, for example, listing other learning resources or offering correspondence courses which would provide feedback.

Providers would be advised to take into consideration the many practical suggestions that were offered by the distant learners throughout the survey such as offering courses of a more concentrated nature, establishing networks of dental hygienists who can travel together, developing more human resources, offering more satellite courses, providing written summaries of courses for those who cannot attend, ensuring early notice of upcoming courses and events, and making special arrangements for accommodations.

Provincial Differences

The provinces differed in many aspects — the number of distant learners, the mean distance the dental hygienists live from the learning centre, perceived availability of learning resources, distances the dental hygienist is willing to travel, typical employment settings and topic preferences. These differences will ultimately determine what will be the most cost-effective when selecting distance learning strategies. Provinces will need to consider the number and geographic dispersion of their distance learners. Geographically clustered individuals might be able to gather for a course via teleconferencing while widely dispersed individuals might be better served by a correspondence course. The necessity for each province to examine their population of distant learners is critical when attempting to meet their continuing education needs.

Future Research

If data is gathered in the future from distant learners, it would be advisable to gather comparable data on both non-distant learners and non-respondents. The latter is particularly significant in those provinces who suffered a 50 percent or below response rate. As well, if results are to be analyzed nationally, provincial sampling procedures must be uniform.

Although it is not conclusive (due to the aforementioned factors), the data indicate that the further dental hygienists

lived from the learning centre: 1) did not correspond to a perceived decrease in the availability of courses or self-study materials; 2) was not significantly related to an increasing difficulty in the ability to meet continuing education needs; or 3) did not correspond with any significant trends regarding usual learning action. Data from non-distant learners might provide valuable information on the distance factor.

To date, very little is known about the many factors which affect the continuing education behaviour of Canadian dental hygienists. This survey is a beginning. It has focussed on some questions for future research: Are there aspects of the employment setting other than type (private practise vs. public health), that have impact on the continuing education behaviour of dental hygienists?; Considering the significant provincial differences regarding perceived availability of learning resources, what factors contribute to a climate conducive to the growth and development of continuing education opportunities for both distant and non-distant learners?; How might dental hygienists' activities, preferred learning styles and licensure requirements affect participation?; How much are dental hygienists learning outside formally offered courses through everyday experience and self-study?; How can providers help practitioners define their learning needs and effectively link them with resources?

CONCLUSION

One-fifth of Canadian dental hygienists live a significant distance from learning centres. Half the responding distant learners reported NO access to self-study materials or continuing education courses within their geographic area (an 80 kilometer radius). The majority report that they are having difficulty meeting their continuing education needs and that they want more continuing education opportunities than are currently available. Planners need to be sensitive to the additional barriers distant learners face. They are advised to increase the quality and quantity of learning resources with particular attention to directing subject matter to the needs of the target population and to plan according to the unique profile of each province. Utilizing the data from this survey as a springboard for

gathering additional information should enable each province to begin to examine the continuing education needs of its dental hygienists. Because needs are always changing, it is hoped that this and future research efforts in continuing education will lead to innovative practices for Canadian dental hygienists, which will promote learning and, ultimately, benefit the public.

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CDHA Guide to Submission of Manuscripts

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References should be lined up numerically. References to journal articles should be made as follows: last name of author followed by initials; title of article with only the initial letter of first word capitalized; full journal name followed by volume, number, first and last pages of article to which you refer, and year.

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Bell, G. Role of the dental hygienist in restorative dentistry. *Dental Health* 40: 139-141, 1973.

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Example:

Guthrie, H.A. *Introductory Nutrition*. The G.V. Mosby Co., St. Louis, 1975: 153-156.

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Exemple:

Zangwill, O.L. Le problème de l'apraxie idéatoire. *Revue Neurologique*, 102: 595-603, 1960.

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Exemple:

Guthrie, H.A. *Introductory Nutrition*. The C.V. Mosby Co., St. Louis, 1975: 153-156.

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L'approche à privilégier pour un changement de comportement

France Lavoie

Une des choses les plus difficiles à modifier dans la nature de l'homme, c'est son comportement. Pourquoi? Parce que c'est fortement ancré dans ses habitudes. Alors pour changer une telle façon d'agir, il faut des arguments valables qui stimuleront ce changement. Parmi ces éléments déclencheurs il faut, entre autres, une excellente communication entre la personne qui veut modifier un comportement soit l'hygiéniste et l'autre, le patient. Si c'est réussi, on augmente déjà nos chances dans l'étape suivante, soit l'apprentissage à long terme. Mais pour apprendre et mémoriser une "modification de comportement" pendant une longue période, il faut qu'elle rejoigne des intérêts, des besoins. Il faut être motivé à apprendre. Nous voyons donc apparaître ici une autre condition qu'est la motivation. Celle-ci combinée à la communication et l'apprentissage, nous permettra d'atteindre notre but. Comme nous le constatons, nous sommes maintenant en présence d'éléments qui interagissent entre eux et s'influencent mutuellement. Il s'agit alors d'aller avec prudence et doigté dans ce réseau complexe et fragile. Et nous disons tout de suite qu'il n'existe pas de recette miracle dans ce domaine: chaque cas est unique. Cependant nous croyons que ces trois éléments peuvent nous aider dans notre cheminement vers le changement.

(A) LA COMMUNICATION:

"La communication est l'outil indispensable à l'homme. Elle lui permet d'accomplir les plus grandes choses mais si ces communications sont mal utilisées, elles sont la source de problèmes. Nous voyons donc son importance.

Aussitôt que l'hygiéniste et son(s) patient(s) se rencontrent, la communication est influencée par la première impression. Pour favoriser celle-ci, un beau sourire, un regard honnête, une tenue adéquate, des vêtements propres et une bonne hygiène corporelle visible (ex.: cheveux, mains, ongles, odeur agréable) aideront beaucoup. La façon de s'exprimer, avec politesse, sans donner d'ordre, augmentera encore les chances de réussir la communication. Les qualités personnelles telles l'empathie, l'écoute active, l'ouverture d'esprit, les respect d'autrui, la confiance en soi s'avèreront de précieux atouts. Le langage verbal et non-verbal occuperont une place prépondérante dans la communication. Selon Mehrabian l'importance des mots est de 7%, celle de la voix (débit, intonation, etc.) de 38% tandis que l'expression du visage équivaut à 55%. Le non-verbal influence donc la relation entre deux ou plusieurs personnes.

D'autres facteurs agissant sur la communication sont: la distance rapprochée entre les sujets, une voix assez forte pour être entendue de tous, des échanges de messages verbaux et non-verbaux, la vérification de ceux-ci auprès des interlocuteurs par des questions, des résumés, des paraphrases. Le message doit être clair et bien transmis. Pour atteindre cela, l'hygiéniste doit bien maîtriser sa matière (Ce qui se conçoit clairement s'énonce aisément). D'autre part le(s) patient(s) doit(vent) être attentif(s) à ce qui est dit. Et comment capter l'attention? En employant un vocabulaire adapté aux clients, à leur personnalité, à leur niveau de langage, à leur statut social, leur âge et autres caractéristiques qui leur sont propres. L'échange de feedback est également profitable, en général, pour les deux partis.

(B) L'APPRENTISSAGE:

Cet élément est fortement influencé par la qualité de la communication et les intérêts communs qui existent entre les gens qui échangent. Mais pour l'apprentissage, il faut établir un intérêt mutuel ainsi que des objectifs qui sachent répondre aux besoins, qui motivent l'hygiéniste et le(s) patient(s), surtout si l'on espère une action ultérieure. Ainsi, il faut formuler un objectif adapté aux besoins du patient et qui soit réalisable. Si une hygiéniste choisit, par exemple, un but adéquat et facile à réaliser pour le patient et que celui-ci l'atteint, la motivation et l'intérêt des deux personnes augmenteront par rapport à la bouche et à la santé. De plus, le patient aura davantage confiance en lui et en son hygiéniste. Un bon climat existera entre eux et favorisera l'acquisition de nouvelles connaissances et un changement de comportement.

Les qualités de la personne qui transmet des connaissances à un autre individu sont principalement l'observation, l'attention, le respect et l'encouragement. Elle posera des questions ouvertes, fera participer le patient, donnera des renseignements, vérifiera et corrigera les acquisitions du patient si nécessaire. Paraphraser ou faire un résumé de l'enseignement est souvent nécessaire. Elle fera cela en prenant le temps d'écouter son patient et en lui faisant sentir qu'il est unique. Qu'il est un être humain avec toute l'importance que cela revêt.

(C) LA MOTIVATION:

"Les psychologues englobent habituellement sous la notion de motivation les facteurs qui fournissent l'énergie néces-

saire au comportement et qui impliquent une direction. Un organisme motivé va s'engager dans une activité plus rigoureusement et plus efficacement qu'un autre qui ne serait pas. La motivation est donc ce qui pousse un individu à agir, à adopter un comportement ou une attitude. Mais quels éléments engendrent la motivation? Selon plusieurs auteurs dont Maslow, Atkinson, Morgan, ce sont "les besoins". Pour parler de motivation il faut donc introduire la notion de besoin. La publicité se base d'ailleurs sur ce théorème en créant ou en faisant appel à des besoins, ce qui motive la personne à agir de telle façon. Mais la publicité n'est pas toujours efficace direz-vous. Et vous aurez raison. Cela dépendra du besoin auquel elle s'est axée. Ainsi, si on réfère à la théorie de besoins de Maslow, on augmentera nos chances de succès et de motivation à long terme si l'on fait appel aux paliers au-dessus de celui de sécurité car ceux-ci se centrent sur la raison et les sentiments, donc à la nature intrinsèque et profonde de l'individu.

Pour mieux illustrer la relation entre les besoins de Maslow et l'hygiène dentaire nous les interrelierons. Par exemple, un patient peut se présenter à un cabinet, et à travers la conversation, nous nous rendons compte que son motif pour nous visiter est d'avoir de belles dents. Mais est-ce que "belles dents" s'associe au besoin d'esthétique, d'estime, de sécurité? Comme nous le constatons, chaque cas est unique et chaque individu aussi. Mais comment savoir quel est le besoin qui prime chez le patient? C'est, je crois, en étant attentive à lui physiquement et psychologiquement. Parler avec lui de divers sujets et déceler dans ce qu'il dit ce qui s'avère le plus important. On "déduira" ainsi son besoin particulier. On voit ici la complexité de la détection des besoins chez l'individu, que des comportements semblables sont souvent motivés par des besoins différents et que ce sont ceux-ci qu'il importe de découvrir pour réussir à modifier un comportement pour une longue période.

CONCLUSION

En conclusion, nous croyons que pour favoriser un changement de comportement, certains pré-requis sont nécessaires, tels la communication, l'apprentissage et la motivation. Nous réussirons à modifier une habitude si l'on axe la communication sur un besoin qui s'avère important pour le patient. Mais pour découvrir les motifs du patient, il faut être à son écoute. Le traiter comme un être humain unique

Besoins d'actualisation de soi: arriver à son épanouissement personnel et à la réalisation de ses possibilités Besoins esthétiques: symétrie, ordre et beauté Besoins cognitifs: connaître, comprendre et explorer Besoins d'estime: réussir, être compétent, arriver à être reconnu et approuvé Besoin d'appartenance et d'amour: s'affilier aux autres, être accepté et appartenir Besoins de sécurité: se sentir en sécurité et protégé, à l'abri du danger Besoins physiologiques: faim, soif, etc.	
TABLEAU I: Hiérarchie des besoins selon Maslow	
Ref.: Hilgard E., Atkinson R., Atkinson R.C., "Introduction à la psychologie" p.364.	

et prendre le temps. Avec quelques autres précautions nous saurons établir une bonne communication, ce qui ouvrira les portes au changement et peut-être au succès...

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AFFICHE SANTÉ BUCALE



L'association Canadienne des Hygienistes Dentaires

Ces affiches en français et en anglais peuvent être utilisées de plusieurs façons dans le but de promouvoir la santé bucale de l'enfance jusqu'au troisième âge.

Voici quelques suggestions:

- donnez-en à un patient du troisième âge
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The CDHA Community Dental Health Committee wishes to recognize individuals and groups who have effectively promoted oral health during dental health month or at any other time of the year by awarding them a "Certificate of Appreciation". Names and addresses of deserving groups or individuals who have made a significant contribution to public oral health education may be forwarded on the application below to Joanne Clovis, Chairperson of Community Dental Health.

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Call for Abstracts

"Dental Hygiene for Everyone" has been selected as the theme of the 10TH INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE to be held in Oslo, Norway June 26 to 29, 1986. Suggested subject areas are:

Profylaxis, Communication, Nutrition, Handicapped etc.

Participation in the programme is not limited only to members of the dental health profession and abstracts are welcomed from all countries and disciplines.

Invited and contributed papers in these and other areas will be critically reviewed and selected for presentation at scientific sessions, seminars and workshops.

Required information/material:

1. A separate cover sheet (8¼" X 11¾" or 21 cm X 30 cm) which must include the following information:
 - a. Title of paper. The title should be brief and should clearly indicate the nature of the paper. Title must be typed in capital letters. Abbreviations should not be used in the title.
 - b. Name(s) of author(s) and the identity of the individual who will present the paper.
 - c. Professional status of author(s) and address and telephone number of senior author.
 - d. Audiovisual needs (e.g. slide or overhead projector, screen, chalkboard, etc.) must be clearly identified.
2. Title of the paper followed by a typed, doublespaced narrative abstract limited to 100 - 200 words. References and credits are not included as part of the abstract. Special tables or graphs, using black ink or type-written, may be included. All papers must be submitted in English.
3. Two copies of the abstract must be mailed no later than **1st November, 1985** to:

**The Scientific Committee
10TH INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE
P.O. Box 438
1301 Sandvika
NORWAY**

Presentations will be limited to approximately 20 minutes (2000 words).

Notification to authors of papers selected or rejected will be made by 1st January, 1986. Copies of complete presentations will be requested for submission by **1st March, 1986**.

It is a condition of submission of abstract that the abstract, complete papers and illustrations may be published by the Symposium Committee and reproduced in written or recorded form as a result of being presented at the congress.

St. Lucia Dental Health Project

Jacquie Dahl, Dip. D.H.
Co-ordinator — C.A.O.H. St. Lucia

The impetus for the St. Lucia dental health project came from a concern raised by Dr. Frank Pierce, D.D.S. of Wetaskiwin, Alberta, in 1979. Dr. Pierce, who did volunteer dentistry annually in St. Lucia, was approached by Kirby La Montagne of the Lions Club in Soufriere, in 1979, regarding the need for a dental education program. Dr. Pierce approached the members of the Alberta Dental Hygienists' Association with some information about St. Lucia. A special committee of the Alberta Dental Hygienists' Association, which became known as the Committee for the Advancement of Oral Health in St. Lucia (C.A.O.H. St. Lucia), worked on the details of the program.

PROJECT GOALS

The main goal of this project was to increase the awareness of dental health of the people living in southwestern St. Lucia. The selected target groups for improved oral health were school children and mothers with young children. It had been decided by the hygienists that the major emphasis of the project should be directed to the teachers and public health nurses, since these people would be directly responsible for the dental health education. The success of the project depended on these people. In addition, dental health education and instruction in toothbrushing were also given directly to children in all classrooms in all schools in southwestern St. Lucia. Since many of the children do not own toothbrushes, this phase of the project would not have been possible without toothbrushes being supplied for all children.

PROJECT OPERATION

Two-hour workshops were held for the teachers in each school to introduce the program possibilities to them and to present dental health information essential for an education program. The con-

cepts of preventive dentistry, importance of baby teeth, dental disease, and teaching suggestions for a dental program were some of the topics discussed. A similar workshop was given at the Teacher's College for first and second year students.

Workshops were also carried out with the nurses and health assistants at the hospitals and health centres to make them aware of the school program and to present dental health material essential for prenatal classes, postnatal classes, home visits and clinics.

From September 1982 to June 1983, the dental hygienists visited 36 schools, six health centres, and two hospitals. Several visits were made to each school to complete the teacher workshops, classroom education and brush-ins. Follow-up visits, several months after the initial visits, were also made to many of the schools to complete brush-ins.

The depletion of the toothbrush supply was a continuous problem due to an under-estimation of the number of children in southwestern St. Lucia. This was due, in part, to incomplete records of the number of school children. In fact, the initial list of schools received from the Ministry of Health was missing several schools and one health centre. These schools were later added to the initial school list after the project had commenced. Even school records did not give accurate numbers of the students in attendance. Another factor that accounted for the toothbrush shortage was the misunderstanding between the Committee and St. Lucia in regard to the provision of Colgate kits. The Committee believed that toothbrush kits were a commitment from St. Lucia. Therefore, throughout the project, it was necessary to order additional toothbrushes from dental companies. This increased the budget for dental materials. Fortunately, our committee did receive several thousand toothbrushes, in August 1982, as donations from Local Health Authorities in Alberta

(Public Health Units). By mid-May 1983, the supply of toothbrushes was once again depleted. At that time, numerous health units again generously donated an additional 2000 toothbrushes. This donation of toothbrushes ensured that all school children would receive a toothbrush for classroom brushing.

Many teaching aids were provided for schools, hospitals, and health centres throughout the project. All schools received teaching packets appropriate for the age level of the students, posters, numerous pamphlets containing a wide variety of dental information, flip charts, and a large brushing model and toothbrush. Disclosing tablets, floss and other limited materials were given to teachers who specifically requested these extra supplies to use in the classroom. The hospitals and health centres received teaching packets and audiovisual aids as well as toothbrushes and pamphlets. The Teachers' College and Soufriere Library were also left with teaching packets, pamphlets, posters and other teaching aids.

The hygienists participated in dental education with other groups as well. The April team went on some home visits with the nurses to provide dental information to mothers with babies and young children. A few of the dental teams assisted the Peace Corps Dentist, Dr. Susan Benner, at extraction clinics in the hospital and health centres. Preventive dental education was also done with the patients at some of these clinics.

Since the transportation provided by St. Lucia was not always reliable, due to mechanical breakdown of the van, many of the dental hygiene teams had to find other means of transportation at times.

During the nine-month project, 343 teachers received inservice training at 36 schools. The dental teams visited six health centres and two hospitals where they presented inservices to 57 nurses and

health aides. Classroom lessons and brush-ins involved 9,214 children. Another 74 people received dental education through dental clinics at the health centres and home visits.

The total cost of the project was estimated to be \$85,000. C.A.O.H. St. Lucia was largely funded by the Canadian International Development Agency (C.I.D.A.). C.I.D.A. provided \$31,101.00, which covered the costs of meals and airfare for the 18 dental volunteers, as well as providing funds for dental materials and toothbrushes.

The Alberta Dental Hygienists' Association donated \$1,700.00 towards accommodation for the dental auxiliaries while on St. Lucia, which helped to ensure C.I.D.A.'s support. Fourteen dental hygienists and four certified intra-oral dental assistants, working in teams of two, donated a month of their time to work on St. Lucia without pay. All of these people had experience in community health education programs prior to going to St. Lucia. The contribution of volunteer work by the dental auxiliaries was estimated to be valued at \$34,200. The Committee also contributed in kind by volunteering their time to plan, administer, and co-ordinate the project.

Local Health Authorities in Alberta donated dental materials and thousands of toothbrushes towards the project.

The Soufriere Hospital Committee on St. Lucia provided transportation for the dental teams, which was valued at \$3,500.

A computer program was written to tabulate and account for the expenses over the nine-month project. The computer program was used to print out tables each month comparing the actual cost of each expense to the proposed budget. This allowed the Committee to maintain a detailed account of all costs each month and to keep expenses within the budget.

ORAL HEALTH DATA

The hygienists observed a high level of decay and periodontal disease among the St. Lucians. This observation was confirmed by the Peace Corps dentist, Dr. Susan Benner, and a survey done at a rural Infant School in the Choiseul area. Oral inspections were done on 185 children aged five to seven.

The following statistics were compiled from that survey: 85 percent of the children required immediate dental treatment; 0 percent had restorative treatment; only 1.3 percent had no visual defects.

The concept of preventive dentistry was very new to St. Lucians. Some of the children did not own toothbrushes, and

the oral hygiene of the people was very poor. The general attitude towards dentistry was very negative. Most St. Lucians don't go to a dentist until they have a toothache, and the majority of treatment consists of extractions. There is certainly a need for preventive dental education as well as more treatment services on St. Lucia.

PROJECT RESULTS

The friendliness and hospitality of the contact people on St. Lucia helped to make the visiting dental teams feel welcome and provided the needed support. The teachers and nurses responded positively to the program and appreciated receiving the information and materials.

A Project Evaluation form was designed for the teachers on St. Lucia, since they were one of the best groups to evaluate the program. Of the 87 forms distributed, 61 were returned for a 70 percent response rate. A content analysis of the replies indicated that the program was well received by the teachers and students. There was a general consensus among the teachers that the project raised the dental awareness of the students and teachers, and was very beneficial. All responded that the program should be continued. Also, if a fluoride rinse program were introduced in the near future, 97 percent of the respondents stated they would be willing to conduct the program. The majority of the teachers felt that the hygienists were pleasant and well informed and presented the lessons well. Many commented that the children showed more interest in their teeth and were more positive about going to the dentist.

PROJECT CONTINUATION

The Committee for Oral Health Advancement on St. Lucia of the Alberta Dental Hygienists' Association believes that a continuation of the project is necessary for reinforcement of the dental education program.

The teachers and nurses in southwestern St. Lucia have received the necessary information and teaching materials to carry on a dental education program. However, since behaviour modification is a lengthy process, one which requires considerable reinforcement, it would be advantageous to repeat the project in the near future.

Ultimately, the goal of this project was to develop good dental health habits. However, since this cannot be accomplished in a nine month period, the final

success and attainment of such a goal depends on the continued attempts and reinforcement of the teachers and nurses.

Plans for a second phase of the St. Lucia project are presently underway. C.I.D.A. has agreed to provide another grant to cover most of the expenses, with the exception of salaries for the dental volunteers. To ensure that the program becomes self-supporting, the St. Lucia Committee plans to train a local St. Lucia person as a dental assistant at an Alberta Technical Institute. This person would then return to St. Lucia to work as a dental co-ordinator for the teachers and nurses at the schools and health centres.

Follow-up visits to the schools and health centres will be done to reinforce the dental education program and to evaluate the efforts made by the teachers and nurses.

As well, a fluoride component will be implemented, since the use of fluorides is one of the most reliable and inexpensive means of preventing tooth decay. The reports from the Alberta dental hygienists suggest that there is limited availability of fluoride on St. Lucia. The main source of fluoride is in toothpaste, which is not believed to be purchased by the majority of families because of the expense.

Two dental hygienists discussed the possibility of fluoridation of water supplies with Dr. D'Souza, the St. Lucia Minister of Health. It was decided that the equipment and knowledge necessary to monitor fluoridation on St. Lucia were not available.

Therefore, it was decided that a school fluoride tablet program would be most feasible. Fluoride tablet programs have been carried out effectively in Canada and the United States. Fluoride tablets have a systemic and topical benefit to the teeth and are recommended in areas with low levels of fluoride in the water. The school children would be instructed to chew a tablet, swish it around in their mouth for 1 minute and swallow. A reduction in decay of approximately 40 percent to 50 percent can be expected. Fluoride tablets are relatively inexpensive and could be easily used and monitored by the classroom teacher.

The goal set in 1979 for the St. Lucia dental project became a reality in 1982-83. C.A.O.H. St. Lucia has been a very worthwhile and rewarding experience for those dental auxiliaries who became involved in this project. The St. Lucia Committee plans to commence the second phase of the project in 1985. The goal for the second phase of the project is to ensure that an effective preventive dental program will be continued by the people of St. Lucia.

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- References: 1. LAMSTER, I., et al.: Clin. Prev. Dent., 6:12 (1983).
2. MENAKER, L. et al.: Ala. J. Med. Sci., 16:71 (1979).
3. ROSS, N.M., et al.: Warner-Lambert research report #955-0875 (1976).
4. YANKELL, S.L., et al.: Warner-Lambert research report #955-0893 (1976).

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Announcements

The first World Dental Conference is being held in Jerusalem, Israel July 6-11, 1986. Topics include Periodontal Research, Caries Research, Fluoride Research, Oral Pathology and other interesting dental subjects. Also highlighted in the conference are tours of Old Jerusalem and the Wailing Wall.

The language of the conference is English and there is a call for Abstracts. The deadline for receipt of Abstracts is March 15, 1986 and there are strict guidelines.

Further information is available through this publication.

Ottawa Society Executive...

President, Vivian McGuire; Vice President, Helen Bunbury; Secretary, Karen Cuddy; Treasurer, Chris Ryan; Membership, Lori Anderson; Editor, Joanne Thomas; Ways & Means, Donna Forzley and Laura Pozer.

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CDHA Board composition

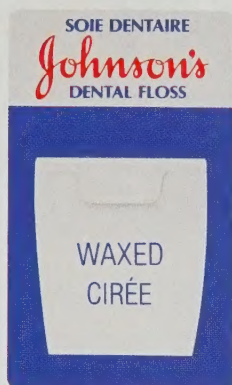
The Board of Directors of the Canadian Dental Hygienists' Association has passed a Resolution to change its representation from one Director for every 100 members, to one for every 250 members.

Directors at the next and future Board meetings will number as follows: Alberta (1); Saskatchewan (1); Newfoundland (1); Ontario (4); Prince Edward Island (1); Manitoba (1); Quebec (1); British Columbia (2); New Brunswick (1); Nova Scotia (1); Armed Forces (1); and Executive Council (4).

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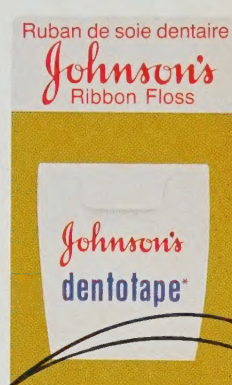
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References: 1. Ostrom, C.A. et al., J Dent Res, 56(3):212-221, 1977. 2. Arends, J., ten Cate, J.M., J Cryst Gro, 53:135-147, 1981. 3. Silverstone, L.M., Caries Res, 11 (Suppl. 1):59-84, 1977. 4. Data on file at Procter & Gamble, Inc. 5. Mobley, M.J., J Dent Res, 60(12):1943-1948, 1981. For further information, please contact Crest Professional Services, P.O. Box 355, Station A, Toronto, Ontario M5W 1C5

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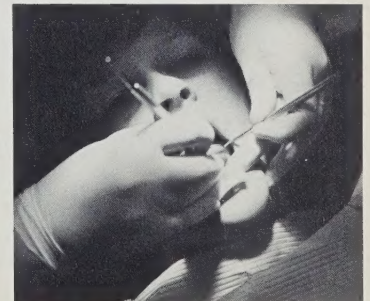
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American Association of Dental Editors
6176/CN ISSN 008-3380



President's Message

Newcombe dedicates self to hard work

This has been a very busy, but exciting few months for me as President of the Canadian Dental Hygienists' Association. While I always knew the job required a lot of hard work and dedication, I did not realize what a whirlwind of activity it would be!

It is an honor to have space for the President's Message in the same issue that the C.D.H.A. perspective *Dental Health Manpower Planning* is being published. This document is a "roadmap" to the future of dental hygiene — it tells us where we have been and where we can go.

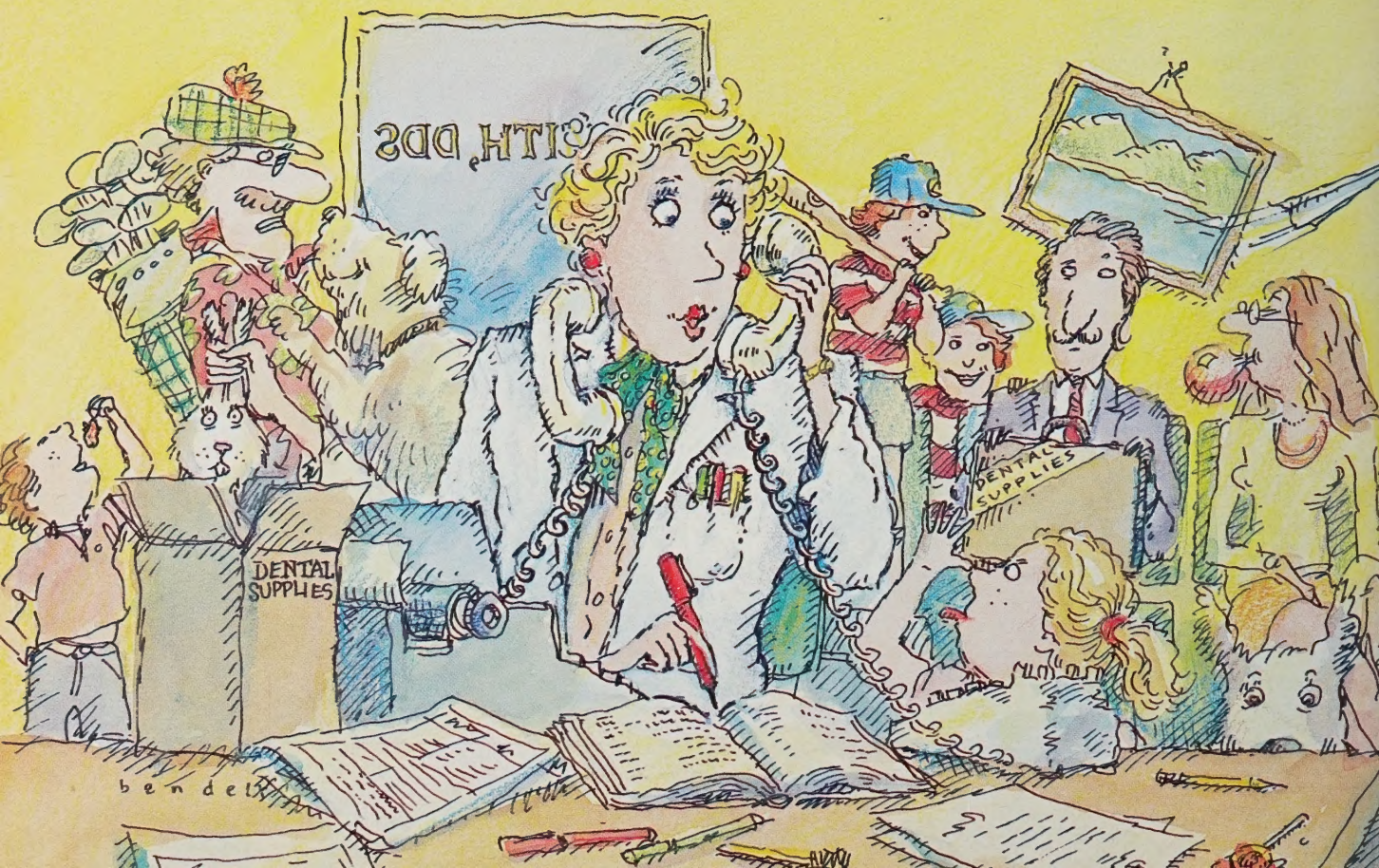
The perspective of Dental Health Manpower is a statement submitted to the Canadian Dental Association Manpower Symposium on behalf of C.D.H.A., by Patricia Johnson. The brief was compiled as a joint effort of your Board of Directors and Committee Chairpeople of our organization. It was a difficult task and one that had to be accomplished over and above the business transacted in our two and one-half day Board meeting. The Board and Committee people pooled resources, knowledge and expertise to produce a brief that is concise and informative.

I hope you are enjoying the changes in our Journal as introduced under our new editorial staff, Elizabeth McKee, Editorial Consultant and Arlee Malkevich, Editor. It is our most important communication to you, the member, and we want it to be a medium that you can both enjoy and be proud of.

As we settle in to a new administrative year for C.D.H.A., there are always problems that go along with the successes. A number of letters have been received by our office about the lapel buttons used in the recent membership drive. I appreciate the time members took to voice their opinions. The problem with the buttons was in the graphic art and production was completed prior to anyone from our Association viewing them. The membership packages were in the final stages of mailing as the Executive converged on Ottawa for our annual meeting. We could do nothing about it at that point. The Executive Council, with support from the Board, has taken steps to ensure that a situation like this does not arise again. I sincerely hope our members will judge us on our past record of achievement and not on the single inappropriate lapel button.

With all the hustle and bustle of the Season of Celebration and the New Year, please take the time to read through this issue and assess the important implications it has for our professional development. I wish you well, in the upcoming year, may it bring you health and happiness, joy and prosperity. All the best to each and every one of you.

Audrey Newcombe
President
CDHA



\$95,000.00

No, it's not the lottery win and it's not an inheritance. \$95,000.00 is the amount of money recently awarded for the project "Oral Health Resource for the Elderly" by National Health and Welfare.

The Canadian Dental Hygienists' Association's Community Dental Health Committee, chaired by Joanne Clovis, spearheaded the application for this funding (see CDHA Journal, Fall, 1985, Letters).

\$95,000.00.

It's not a windfall.

The Committee's application was well-planned . . . a credit to

the professional approach of its members. The Project goal underscores the commitment of hygienists to the continuing dental health care of patients in their senior years.

\$95,000.00.

Read more about it in the News section of this issue.

Elizabeth McKee
Editorial Consultant

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CDHA works for members

As of this fall, all operations of the Canadian Dental Hygienists' Association have been centralized in the CDHA office in Ottawa.

Under the supervision of Executive Secretary, Carol Worobey, the office is a hive of activity.

Carol, a hygienist, took over the Executive chair in 1982, initially running things from her home. She graduated

from the University of Manitoba in 1966 and has worked in private practice, public health and in the field of education.

Working with Carol is Dianne Tivy. Dianne is the resident computer expert at CDHA. Her official title is Business Manager. A graduate of Queen's University in Economics (Class of '77), Dianne has worked long hours computerizing membership lists, Journal subscriptions

and the Continuing Education Catalogue. The computer is proving to be a useful tool in making day-to-day operations of the office more cost effective. Most recently, Dianne has assumed responsibility for overall financial management within the Association.

All Journal functions have also moved into National Office. When former Editor, Stephanie Nagle, stepped down, Journal production was moved from Windsor to Ottawa.

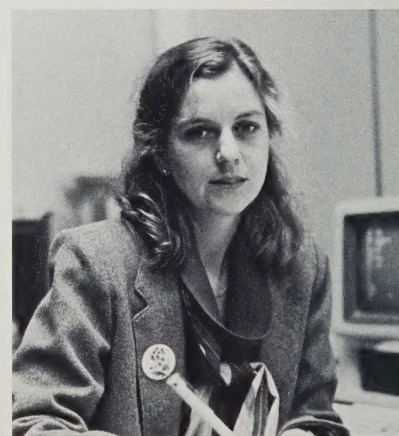
As announced in the Fall issue, Arlee Malkewich has taken over as Editor and Elizabeth McKee is working as Editorial consultant, looking after layout, design, advertising, and generally overseeing the publication's changeover. A graduate of Queen's University in Kingston, Elizabeth is a former Editor of the Canadian Dental Association Journal. She has worked as a newspaper Sports Editor and in the Business Press. She has edited scholarly publications and most recently coauthored a book on non-traditional occupations for women published in the Yukon where she lived prior to returning to the Ottawa area.

CENTRAL OFFICE FUNCTIONS

1. Liaison for all C.D.H.A. Committee Activities
 - maintaining lines of communication between all committees.
 - keep informed of all committee activities
 - insure that deadlines are met for important committee projects.
2. Perform necessary office functions
 - correspondence
 - word processing, typing, filing
 - maintaining office supplies
 - photocopying
3. Liaison for C.D.H.A. Members
 - correspondence
 - redirect queries to appropriate person
4. Provide objective recommendations regarding the Business activities of the Association
 - control Central Office functions
 - Budget monitoring
 - Investments
 - Financial advice
 - Insure cost-effectiveness in association decision making
5. Perform services at cost to the Provincial Associations and C.D.H.A. Committees.
 - computer services
 - typing services
 - photocopy services
 - printing services
 - word processing
6. Perform membership activities for all Provincial Associations
 - collection of fees
 - maintenance of membership lists
 - bookkeeping and banking related to membership
7. Perform all accounting functions required by the organization
 - bookkeeping
 - banking (bank reconciliation)
 - invoices and receipts
 - preparation of financial statements
 - budget monitoring
8. Planning and Implementation of Membership Campaign (in conjunction with the appropriate committees)
9. Provide services to the staff of "The Canadian Dental Hygienist"
 - mailing labels
 - subscription lists
 - subscription money
 - related banking and bookkeeping activities
 - training on the word processor
10. Policy implementation arising from Board meeting
11. Preparation of Board Meeting materials and C.D.H.A. Documents
 - Resource Book
 - Transactions
 - Handbook
 - Constitution
12. Liaison for C.D.H.A. Members
 - correspondence
 - redirect queries to appropriate person
13. Information Centre
 - maintain all association records
 - develop a library containing materials of direct interest to the dental hygiene profession
14. Distribution of C.D.H.A. Materials
 - Posters, pamphlets, etc.
15. Statistical Analysis
 - membership
 - surveys



Carol Worobey



Dianne Tivy

Research confirms that using Listerine Antiseptic significantly reduces Gingivitis.

Controlled clinical studies conducted by independent researchers confirm that using Listerine Antiseptic twice a day

can significantly reduce and help prevent gingivitis.

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To obtain clinical evidence or additional product information, write to:
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- References: 1. LAMSTER, I., et al.: Clin. Prev. Dent., 6:12 (1983).
2. MENAKER, L. et al.: Ala. J. Med. Sci., 16:71 (1979).
3. ROSS, N.M., et al.: Warner-Lambert research report #955-0875 (1976).
4. YANKELL, S.L., et al.: Warner-Lambert research report #955-0893 (1976).

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Joanne Clovis chairs CDHA Committee

Resource for elderly moves into production

CDHA Journal begins to show a new face

Readers will notice a few changes in style in the Journal this month. Over the next few issues, watch for new Departments and other content additions designed to keep CDHA members up-to-date on Association business.

The story in this issue on the \$95,000 grant for oral health research is an example of the in-depth news reporting you can expect in future issues.

Pat Johnson's report as CDHA's representative to the CDA National Manpower Symposium is published as a Special Report this month.

Book Reviews will become a regular Department beginning in the Spring as will a Financial Column by Dianne Tivy, CDHA's Business Manager at National Office.

Last issue's "Interview with the President" sets the tone for what will become an annual introduction to CDHA's Chief Executive Officer.

Readers will meet individual hygienists through an upcoming "Profile" section in the Journal and news items from Newfoundland to British Columbia will be given space.

As usual, the Journal will carry information on Conventions and reports on Board Meetings and a New Products section will highlight the latest in dental equipment and devices.

Although the Journal is a quarterly and daily news is out of date long before an issue 'hits the press', elections of Provincial executives, Class reunions, and news from local Associations — complete with pictures — is always welcome. Remember, the rule of thumb is that if the Journal can't come to you, you come to the Journal.

Our full mailing address appears on the masthead of this publication.

We look forward to hearing from you.

As chairperson of the Community Dental Health Committee of the Canadian Dental Hygienists' Association, Joanne Clovis spearheaded the application process through which CDHA was granted \$95,000 to compile resource material on dental care for the elderly.

The project, officially entitled "Oral Health Resource for the Elderly", will result in the production of a book, or organizational tool, intended to instruct the elderly, or those involved in the care of the elderly, in good oral health care technique. It will be produced in French as well as English.

Joanne and her Committee first submitted a proposal for funding two years ago. With the help of a Federal Government consultant in health promotion, details were refined when the application was resubmitted a year ago. It was finally approved just recently. The project will be completed by the Fall of 1987 by which time it is expected that 50,000 copies of the Resource will have been distributed to health care agencies and individuals.

The primary goal of the project is to develop a Resource which will provide information on the basic elements of nutrition, self examination for oral cancer, the benefits of fluoride, personal oral hygiene. It will also provide information to help the elderly develop skills necessary to attain, maintain and assess oral health.

There has never before been a Resource of this kind available on a national scale in Canada. It will be presented as a folder with pockets containing inserts each of which will cover a different theme. The

cover of the folder is the "Smile for Life" poster and is already in production.

The content of the Resource is also moving into production under the watchful eyes of Joanne and a seven-member Advisory Committee. A consultant will coordinate artwork and printing.

The Canadian Dental Hygienists' Association will definitely benefit from this project, Joanne feels, because of the impact it will have on the health community in particular and seniors in Canada in general. "It's definitely a profile enhancer," says Joanne.

Hygienists will have the opportunity to be the front runners for the Resource in the community. When all the wrinkles are ironed after a pilot project in April 1986 (Dental Health Month), the initial distribution of the material will be to all members of the Canadian Dental Hygienists' Association in January, 1987. Members of the National Advisory Council on the Aging will also receive the kit in time for promotion during National Dental Health Month in April 1987.

All provincial and community health agencies will be made aware of the availability of the Resource and the full run size of 50,000 copies will be distributed as requests for it are received by the CDHA office in Ottawa.

Joanne will be conducting an evaluation of the folder after its initial distribution.

"I'm excited about the project for CDHA because it is a first," says Joanne. "Of course it's a little overwhelming in scope but it is a subject with which I am familiar so I'll just work ahead on it... and I'll also enjoy it!"

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10TH INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE

Call for Abstracts

"Dental Hygiene for Everyone" has been selected as the theme of the 10TH INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE to be held in Oslo, Norway June 26 to 29, 1986. Suggested subject areas are:

Profylaxis, Communication, Nutrition, Handicapped etc.

Participation in the programme is not limited only to members of the dental health profession and abstracts are welcomed from all countries and disciplines.

Invited and contributed papers in these and other areas will be critically reviewed and selected for presentation at scientific sessions, seminars and workshops.

Required information/material:

1. A separate cover sheet (8¼" X 11¼" or 21 cm X 30 cm) which must include the following information:
 - a. Title of paper. The title should be brief and should clearly indicate the nature of the paper. Title must be typed in capital letters. Abbreviations should not be used in the title.
 - b. Name(s) of author(s) and the identity of the individual who will present the paper.
 - c. Professional status of author(s) and address and telephone number of senior author.
 - d. Audiovisual needs (e.g. slide or overhead projector, screen, chalkboard, etc.) must be clearly identified.
2. Title of the paper followed by a typed, double spaced narrative abstract limited to 100 - 200 words. References and credits are not included as part of the abstract. Special tables or graphs, using black ink or type-written, may be included. All papers must be submitted in English.
3. Two copies of the abstract must be mailed no later than **1st November, 1985** to:

**The Scientific Committee
10TH INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE
P.O. Box 438
1301 Sandvika
NORWAY**

Presentations will be limited to approximately 20 minutes (2000 words).

Notification to authors of papers selected or rejected will be made by 1st January, 1986. Copies of complete presentations will be requested for submission by **1st March, 1986**.

It is a condition of submission of abstract that the abstract, complete papers and illustrations may be published by the Symposium Committee and reproduced in written or recorded form as a result of being presented at the congress.

Dental Health Manpower Planning: The C.D.H.A. Perspective

Statement of the Canadian Dental Hygienists' Association to
the Canadian Dental Association National Manpower Symposium

Patricia M. Johnson, RDH, BScD, MSc.

The National Manpower Symposium, sponsored by the Canadian Dental Association was held in Toronto on October 18-19, 1985. The Canadian Dental Hygienists' Association submitted a position statement, the text of which is included in this report. The author, Patricia M. Johnson, presented the statement and participated in the deliberations on behalf of the C.D.H.A.

The purpose of the symposium was to examine the apparent problem of an excess of dental health service providers in Canada and to make recommendations regarding the future role of the Canadian Dental Association. The topic was explored within the context of supply and demand projections and changing dental needs and in light of events in other countries.

The Symposium was chaired by Dr. Ian Vogan. Speakers on the first day addressed the topic "Defining the Problem: Nationally and Internationally" and included Dr. Ronald House, an economist and consultant to C.D.A.; Dr. Donald Lewis, University of Toronto, a dental manpower researcher; Dr. Rodney Moore, United States, with information on the Scandinavian countries; Dr. Derek Chisholm, England, with information on Great Britain and the Commonwealth; and Dr. George Beagrie, University of British Columbia, with the Federation Dentaire Internationale perspective. The topic for the second day, "Strategies and Possible Solutions", was addressed

by representatives from licensing boards and professional associations (Dr. John Silver, Mr. John Gillies, Mr. Donald Pamenter, Dr. Arthur Schwartz, and Mrs. Patricia Johnson) and from Health and Welfare Canada (Dr. Wm. Bedford). The texts of these papers will be published in a future issue of the Journal of the Canadian Dental Association. In addition, a videotape and a report of the proceedings will be available.

The format allowed for considerable discussion and the deliberations were wide-ranging. The public interest as well as the professional self interest in the issue was acknowledged, as well as the complexity of the issue which necessitates tough policy choices. A new image for dentists, as perceived by the public and by new entrants to the profession, was considered important if dentistry and dental health services are to be more successfully marketed.

The fact that the number of dental hygienists has been increasing at a faster rate than dentists, was identified as a concern. However, by the conclusion of the symposium, it was acknowledged that strategies which involve reduction in class size of educational programs should focus initially on intake of dental students. Further monitoring is required before the enrollments of dental hygiene students are adjusted.

The symposium concluded with a recommendation that the Canadian Dental Association establish a national planning

and monitoring committee. This committee will be expected to report to the CDA Board of Governors in 1986. Its report will include proposals for achieving reduced student enrollments in dental educational programs and for monitoring the supply of personnel. It was suggested that such a planning and monitoring body should incorporate representation of all interest groups, including dental hygienists, other dental health personnel, and consumers.

Following is the text of the C.D.H.A. statement. It presents the perspective of organized dental hygiene in defining the problem and identifying appropriate strategies and solutions to resolve it. Developed to complement the Symposium's program, this statement makes reference to, but does not reiterate, demographic, epidemiologic and other information presented by earlier speakers.

Dental hygiene was introduced into the health care system in Canada over 35 years ago. Initially few in numbers, there are now more than 5,000 dental hygienists distributed throughout the country. In 1983, 81 per cent were actively working at dental hygiene.¹

The primary focus of dental hygiene practice is the prevention and control of dental disease. As has been noted, in industrialized countries such as Canada, there has been a decline in dental caries with a corresponding recognition of periodontal disease as a major health problem.^{2,3} The changing trend in service need

and demand is illustrated in **Table 1** which presents projections developed by Douglass and Gammon.² According to these projections, by the year 2001 the demand for basic periodontal and preventive services is expected to exceed the demand for both operative and advanced periodontal services combined. The services provided by dental hygienists are the very services which will be required to meet changing dental health care needs.

Dental hygiene is as viable now as it was when it was first created in spite of myths to the contrary. For example, the myth of a high attrition rate for dental hygienists has been dispelled by a number of studies.^{4,5} Further, there is currently no evidence of an excess supply in either urban or metropolitan centres. The number of dental hygiene graduates should continue to be monitored in the context of future need and demand and of efficiency in the provision of services. An inadequate supply of dental hygienists may occur if the demand for periodontally-related services is stimulated. Should it be considered appropriate to adjust the supply of dental hygienists, we recommend a moderate approach. Excess numbers of dental hygienists can be avoided by alternating intake years or by temporarily reducing class size. These measures are less disruptive to supply and demand

requirements than are program closures. Program closure usually is irreversible and program initiation is extremely costly.

Given the purported increasing awareness of health and the willingness of the population to take more responsibility for their own well-being, this is an opportune time for the dental health professions to reach out to and generate increased demand for dental health services. Within the context of the problems identified by yesterday's speakers, opportunities do exist.

When faced with the declining demand for their products or services, other organizations and professional groups have analyzed their difficulties using the framework outlined in **Figure 1**.⁶ This framework can be utilized in the analysis of dental health manpower problems. Generally, dental health professionals have done a good job of offering traditional services to traditional client groups, and, to a certain extent, offering new services (in the form of clinical advancements) to these same client groups.

One set of opportunities lies in delivering traditional services to non-traditional client groups: seniors; residents of hospitals, group or institutional homes; physically and mentally handicapped

individuals; natives and those Canadians who live in remote communities. There are opportunities for practitioners to serve these client groups — there is no "oversupply" in these sectors. Dentists and dental hygienists must consider career options other than urban private practice.

Another set of opportunities lies in the development of new services — both for the traditional and non-traditional markets. As periodontal disease emerges as the primary dental health problem in our country, there will be an opportunity to develop and offer new types of educational and self-help programs to the public. With expertise in both health education and health promotion, dental hygienists can play an important role in collaborating with dentists to develop cost-effective educational and self-care programs.

Dentists, with their more extensive education, could alter their roles to include more managerial, diagnostic and complex operative functions. Procedures traditionally associated with prevention of periodontal disease and dental caries, such as scaling and root planing, application of sealants and fluorides, and patient education, overall have not constituted a major portion of procedures performed by a dentist. Such services are delivered

Dental Services Effectively Demanded in Thousands of Hours Among Canadians, 1981 vs. 2001 (Douglass & Gammon, 1985)

Service Effectively Demanded	Hours (in 1000's)		
	Dentist	Hygienist	Total
1976			
Operative	5,444.9	72.9	5,517.8
Advanced Periodontal	272.2	25.5	297.7
Periodontal + Preventive	1,447.2	1,547.2	2,994.4
1981			
Operative	6,479.1	140.5	6,619.6
Advanced Periodontal	324.0	49.2	373.2
Periodontal + Preventive	1,722.1	2,981.5	4,703.6
2001			
Operative	9,186.2	476.8	9,663.0
Advanced Periodontal	459.3	166.9	626.2
Periodontal + Preventive	2,441.6	10,119.5	12,561.1

more cost-effectively by allied types of personnel.⁷⁻¹⁰

Although talked about more and more frequently within dental circles, "marketing" is a concept which still is not well understood or effectively implemented. Our professional associations must help practitioners gain a more comprehensive understanding of marketing processes and strategies and lead the way in stimulating demand for services in a professional and socially responsible manner. The "dental awareness campaign" being conducted by the Canadian Dental Association is an important step in this direction.

As practitioners begin to adopt a marketing orientation to their practice development, new roles for all members of the dental health team will emerge. Dental hygienists have the educational background and skills to become effective marketing agents for the practices with which they are affiliated.

Although presentation of the merits of relaxing supervision requirements for dental hygienists may seem out of context in this discussion of the value of marketing approaches to these problems, it does fit. Dental hygienists providing preventive services in institutional, remote or other settings will identify many dental treatment needs. They are able to facil-

itate the process of having these needs met.

There appears to be room for a more collaborative role between the dentist and dental hygienist in the provision of dental hygiene care within the context of an overall dental treatment plan. Changes in supervision requirements, such as have been implemented in some jurisdictions, are necessary to facilitate this collaborative approach. For example, general supervision would permit the dental hygienist to function in a preventive and case-finding role in non-traditional and traditional settings. Theoretically, beneficiaries would include the current market, those currently underserved segments of the market as previously identified, and practitioners who seek to extend service to greater numbers of clientele.

In concluding, we acknowledge the interdependence of dentistry and dental hygiene. The problems, challenges and solutions regarding the dental health trends discussed at this symposium are equally as important to the profession of dental hygiene as they are to the profession of dentistry. The Canadian Dental Hygienists' Association appreciates the invitation to present our views at this conference and looks forward to the opportunity to participate in planning for the future.

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Market-Oriented Framework for Planning Dental Health Manpower Strategy

Same Products/ Services New	Same Services	Same Services
	Same Markets	New Markets
	New Services	New Services
	Same Markets	New Markets
	Same Markets	New Markets

Continuing Education

Self-Assessment Test

AGING

Prepared by:

YVONNE L. KNAZAN, R.D.H., B.A.

School of Dental Hygiene, University of Manitoba

1. We are an aging population. The proportion of individuals age 65 and over in Canada today is:
 - a) 5%
 - ☒ b) 10%
 - c) 15%
 - d) 20%
 - e) 25%
 2. Dental utilization is low for the elderly population. The majority of persons age 65 and older (dentulous and edentulous) do not seek regular dental care due to:
 - a) financial considerations
 - b) lack of transportation
 - ☒ c) absence of perceived need
 - d) they don't know where to go
 - e) fear of pain
 3. Which of the following facts on aging is true:
 - ☒ 1) All five senses tend to decline in old age.
 - 2) Approximately 15% of persons over age 65 live in long-stay institutions.
 - 3) Over 60% of persons between ages 65 and 75 years today are edentulous.
 - ☒ 4) The majority of elderly suffer from one or more chronic conditions and diseases.
 - 5) Caries activity is more frequent among the elderly than among the middle-aged adult.
 - a) 2 and 4
 - b) 1 and 3
 - c) 4 and 5
 - ☒ d) 1, 4 and 5
 - e) 1, 2 and 3
 4. The most common drug-induced oral effect seen in the elderly is:
 - a) Gingival Hyperplasia
 - b) Candidiasis
 - c) Anemia
 - ☒ d) Xerostomia
 - e) Black Hairy Tongue
 5. Physiologic changes of aging include:
 - 1) Diminished function of salivary glands.
 - 2) Decrease in number of taste buds.
 - 3) Thinning of tissues in the oral cavity.
 - 4) Gingival recession.
 - 5) Near-sightedness.
 - ☒ a) 1, 2, 3 and 4
 - b) 1, 3 and 5
 - c) 2 and 4
 - d) 5 only
 - e) all of the above
 6. When considering educational materials for the elderly:
 - 1) print materials are easiest to read if black on white.
 - 2) greens and blues are attractive and easy to see.
 - ☒ 3) contrast of black print on yellow or orange is easiest to see.
 - 4) glossy paper is preferable for materials.
 - 5) ☒ larger print materials are recommended to accommodate decrease in visual acuity.
 - a) 1 only
 - b) 5 only
 - c) 2 and 4
 - ☒ d) 3 and 5
 - e) 1 and 5
 7. The advantages of routine denture marking or identification are:
 - 1) forensic identification.
 - ☒ 2) prevention of lost or misplaced dentures in long-stay institutions.
 - 3) identification of unconscious persons.
 - 4) prevention of mix-up of dentures in commercial dental laboratories.
 - 5) legal considerations in settlement of estates, insurance claims and marital status.
 - a) 1 and 3
 - b) 2 and 4
 - c) 3, 4 and 5
 - ☒ d) all of the above
 - e) 2, 3 and 4
 8. Clinical problems associated with Xerostomia may include:
 - 1) decreased denture retention.
 - 2) increased caries rates.
 - 3) atrophic glossitis.
 - 4) angular cheilitis.
 - 5) black hairy tongue.
 - a) 1 and 4
 - b) 1, 2 and 3
 - c) 3 and 5
 - d) all of the above
 - ☒ e) 1, 2, 3 and 4
 9. The incidence of oral cancer is highest in the elderly. The most common site for oral cancer is:
 - a) floor of mouth
 - b) palate
 - c) alveolar mucosa
 - ☒ d) buccal mucosa
 - e) tongue
 10. Osteoporosis, one of the most common age-related health problems in the elderly, first affects:
 - a) knees
 - b) hip joints
 - ☒ c) alveolar bone
 - d) spine
 - e) hands
-
- | KEY | | | |
|-----|---|-----|---|
| 1. | b | 6. | d |
| 2. | c | 7. | d |
| 3. | d | 8. | e |
| 4. | d | 9. | e |
| 5. | a | 10. | c |

Sponsoring Institution Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor	Registration	Fee	Audience	Contact person/ Telephone
Continuing Education Faculty of Dentistry University of Alberta 4046 Dentistry/ Pharmacy Bldg. Edmonton, Alta. T6G 2N8	Edmonton Alta.	?? Posterior Composites??	Dental Materials & Devices	Jan. 11 1986	Lecture Demo. Participation	Dr. S. Newman	Limited to 45	Not Decided	GPs Specialists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
Continuing Education Faculty of Dentistry University of Alberta 4046 Dentistry/ Pharmacy Bldg. Edmonton, Alta. T6G 2N8	Calgary Alta.	Resilient Denture Liners and Clinical Management of Prosthodontic Associated Pathology	Prosthodontics	Jan. 17 1986	Lecture	Dr. W. Harley	Open		GPs Specialists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
Continuing Education Faculty of Dentistry University of Alberta 4046 Dentistry/ Pharmacy Bldg. Edmonton, Alta. T6G 2N8	Edmonton Alta.	Resilient Denture Liners and Clinical Management of Prosthodontic Associated Pathology	Prosthodontics	Jan. 18 1986	Lecture	Dr. W. Harley	Open		GPs Specialists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
Continuing Education Faculty of Dentistry University of Alberta 4046 Dentistry/ Pharmacy Bldg. Edmonton, Alta. T6G 2N8	Edmonton Alta.	Clinical and Periodontal Surgery: Part I	Periodontics	Jan. 24 1986	Lecture Demo. Participation	Drs. P. Schuller & M. Eggert	Limited to 10		GPs Specialists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
Continuing Education Faculty of Dentistry University of Alberta 4046 Dentistry/ Pharmacy Bldg. Edmonton, Alta. T6G 2N8	Edmonton Alta.	Dental Considerations in Medically-Compromised Patients	Oral Medicine/ Diagnosis	Jan. 25 1986	Lecture	Dr. J.M. Plecash	Open		GPs Auxiliaries Specialists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
Continuing Education Faculty of Dentistry University of Alberta 4046 Dentistry/ Pharmacy Bldg. Edmonton, Alta. T6G 2N8	Edmonton Alta.	Clinical and Periodontal Surgery: Part II	Periodontics	Jan. 31 1986	Lecture Demo. Participation	Drs. P. Schuller & M. Eggert	Maximum of 10	Not Decided	GPs Specialists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023

New Products



"P-30" RESIN BONDED CERAMIC RESTORATIVE IN LIGHT-PROTECTED SYRINGE

A radiopaque, light cured Resin Bonded Ceramic (RBC) for posterior restoratives is now being packaged in a light-protected syringe by the 3M Dental Products Division.

"P-30" RBC is available in a new syringe that, according to the manufacturer, provides optimum protection from light and also allows the dentist to control easily the amount of material dispensed.

"P-30" RBC is a new generation of 3M's "P-10" RBC. "P-10" RBC contains more than 85 per cent ceramic material, making it wear-resistant enough to withstand the intense forces of mastication, says the company.

"P-30" RBC, improving on "P-10" RBC material, is radiopaque and light cured. A patented zinc glass filler in "P-30" material clearly distinguishes restorative from tooth surfaces on X-rays. Because it is light-cured, "P-30" RBC allows the dentist more time to shape, contour and finish the restorative material before setting it with a visible light curing unit.

In addition, "P-30" RBC contains 87

per cent inorganic filler. "P-30" RBC is also more viscous, closer to the consistency of an amalgam for better handling. Because the consistency can be sculpted so easily, "P-30" RBC saves time.

"P-30" exhibits the same excellent tooth-strengthening properties, colour stability, marginal integrity, thermal shock reduction, superior fracture resistance, aesthetic appeal and other related qualities as "P-10" RBC.

Combined with 3M "Scotchbond" Light Cured Dental Adhesive, "P-30" RBC enhances tooth strength by acting as a stress distributor. With "Scotchbond" adhesives, Resin Bonded Ceramics provide better marginal integrity than amalgams. According to the manufacturer they also eliminate the need for undercutting and destroying healthy tooth structure.

"P-30" RBC can be used for Posterior Class I and Class II restorations, bicuspid, splinting, deciduous Class I and II pulpotomy, pit lesions, preventive restorations and restorations adjacent to gold.

For more information, write to 3M Canada Inc., Dental Products, P.O. Box 5757, London, Ontario, N6A 4T1.

A NEW ALTERNATIVE TO UNIFORMS

The P + M Collection has been especially designed with people in the dental world in mind. The designers realized the need for ease of movement and comfort in the dental environment, thus the P + M Workwear Collection.

The workwear is made of 100% cotton fabric which allows the clothing to breathe naturally and to keep the wearer refreshed. Comfort is made easy by the use of generous pleats and longer shirt tails which allow for free bending and twisting throughout the busy day. A full range of styles and colours is available, including the new pink and grey.

For further information, contact: Denco, 260 Yorkland Blvd., Willowdale, Ontario M2J 1R7.

GREAT LAKES' BIOCHEMICAL WAREHOUSE LOCATIONS OPENED

Dennis Ashworth, General Manager Great Lakes Biochemical Canada Limited, announced recently that two new warehouse locations have opened:

Calgary, Alberta — #2 4216 — 12th Street N.E., T2E 6K9. Contact Charlie Mousseau — (403) 280-1622 and

Halifax, Nova Scotia — 3599 Commission Street, B3K 5M3. Contact Bruce Stailing — (902) 454-5884.

Great Lakes Biochemical Canada Limited specializes in the treatment of water in swimming pools, spas, hot tubs, ponds, lakes, lagoons, fountains and therapeutic baths. Great Lakes Biochemical has been in the water treatment industry world wide since 1956. Their most famous product is Algimycin.

All claims are those of the manufacturer and not those of the CDHA.

MOVING? LET US KNOW.

As a member of the Canadian Dental Hygienists' Association, you receive this Journal four times a year.

If you have moved, or are planning to in the coming months, clip out this form, attach your Journal label where indicated and mail it to CDHA, 1320 Carling Avenue, Ottawa, Ontario K1Z 7K9, attention Dianne Tivy.

Your address on the Journal mailing list will be changed along with your CDHA membership entry and your listing with your Provincial Association.

Attach label here

Financial Report

THE CANADIAN DENTAL HYGIENISTS' ASSOCIATION

TORONTO, CANADA

APRIL 30, 1985

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CHARTERED ACCOUNTANTS

SOBEL, SHERMAN AND COMPANY

CHARTERED ACCOUNTANTS

6TH FLOOR

326 ADELAIDE STREET WEST

TORONTO ONTARIO

CANADA

M5V 1R3

PERCY SHERMAN, C.A.
JULIUS NEEDLEMAN, C.A.
ALLAN P. NOSS, C.A.

TELEPHONE
596-8401

- AUDITORS' REPORT -

To the members of
The Canadian Dental Hygienists' Association,

We have examined the Statement of Balance of Funds as at April 30, 1985 and the Statement of Receipts and Disbursements for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances, except as explained in the following paragraph.

As is the case with most organizations which receive funds by membership fees and contributions, verification of revenue was impracticable beyond accounting for amounts as recorded.

In our opinion, except for the effect of any adjustments which might have been required had we been able to satisfy ourselves with respect to the revenue described in the preceding paragraph, these financial statements present fairly the financial position of the Association as at April 30, 1985 and the results of its operations for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

July 15, 1985
Toronto, Canada

"SOBEL, SHERMAN AND COMPANY"

Chartered Accountants.



THE CANADIAN DENTAL HYGIENISTS' ASSOCIATION

STATEMENT OF BALANCE OF FUNDS

AS AT APRIL 30, 1985

(With Comparative Figures for 1984)

	<u>1 9 8 5</u>	<u>1 9 8 4</u>
Balance of Funds - May 1, 1984	\$111,562	\$101,034
<u>Add: Excess of Receipts over Disbursements</u>	<u>10,314</u>	<u>10,528</u>
Balance of Funds - April 30, 1985	<u>\$121,876</u>	<u>\$111,562</u>
<u>Balance of Funds is Comprised as Follows:</u>		
Bank Balances	\$ 58,071	\$ 49,695
Deposit Receipts (Note 2)	<u>63,805</u>	<u>61,867</u>
	<u>\$121,876</u>	<u>\$111,562</u>

APPROVED BY:

Laura Stewart
Kathryn Starks

SOBEL, SHERMAN AND COMPANY
CHARTERED ACCOUNTANTS

THE CANADIAN DENTAL HYGIENISTS' ASSOCIATION

STATEMENT OF RECEIPTS AND DISBURSEMENTS

YEAR ENDED APRIL 30, 1985

(With Comparative Figures for 1984)

	1985	1984
<u>Receipts</u>		
Membership Fees	\$150,041	\$118,292
Publications, Advertising and Subscriptions	23,246	16,225
Interest Received	10,514	5,660
Repayment of Advances	6,384	993
Insurance Commissions	3,592	3,592
Convention Profits	1,846	2,025
Dental Health Project	312	1,229
International Symposium	-	7,500
Translation Grant - Government of Canada	-	3,050
Fund Raising	-	291
	<u>195,935</u>	<u>158,857</u>
<u>Disbursements</u>		
Publications	32,930	29,792
Administration, Stationery and Salary	27,516	22,322
Computer Services and Expenses	26,379	9,717
Members' Liability Insurance	21,129	19,230
Computer Purchase	15,907	-
Board Meetings	15,744	26,393
Membership Campaign	14,900	10,358
C.D.H.A. Representations	11,253	3,743
Committees	7,523	10,322
Honoraria	3,750	5,875
Translation Services	3,050	-
Donations	2,634	2,825
Audit and Legal Fees	1,000	1,065
Insurance	606	250
Briefs	506	2,177
C.D.H.A. Workshop	280	1,004
Conventions	138	150
Dental Health Project	130	2,891
Bank Charges	128	43
Gifts to Officers and Student Awards	118	172
	<u>185,621</u>	<u>148,329</u>
<u>Excess of Receipts Over Disbursements</u>	<u>\$ 10,314</u>	<u>\$ 10,528</u>

SOBEL, SHERMAN AND COMPANY
CHARTERED ACCOUNTANTS

THE CANADIAN DENTAL HYGIENISTS ASSOCIATION

NOTES TO FINANCIAL STATEMENTS

APRIL 30, 1985

Note 1. Significant Accounting Policies

The Association follows generally accepted accounting principles in the preparation of its financial statements except as outlined below where the disclosed basis of accounting is considered to be appropriate.

Fixed Assets

Office Equipment and Furniture are expensed entirely in the year of purchase.

Revenue

Revenue from membership fees, grants and donations is recorded in the year received.

Note 2. Deposit Receipts

The Deposit Receipts in the amount of \$63,805 are comprised of the following:

<u>Amount</u>	<u>Date of Maturity</u>	<u>Rate of Interest</u>
\$40,000	May 16, 1985	9.75 %
<u>23,805</u>	February 14, 1986	10.00 %
<u>\$63,805</u>		

The Association renews all deposit receipts on maturity unless cash is required for operations.

Note 3. Comparative Figures

Certain of the prior year's figures, provided for the purpose of comparison, have been reclassified to conform to the current year's presentation.

SOBEL, SHERMAN AND COMPANY
CHARTERED ACCOUNTANTS



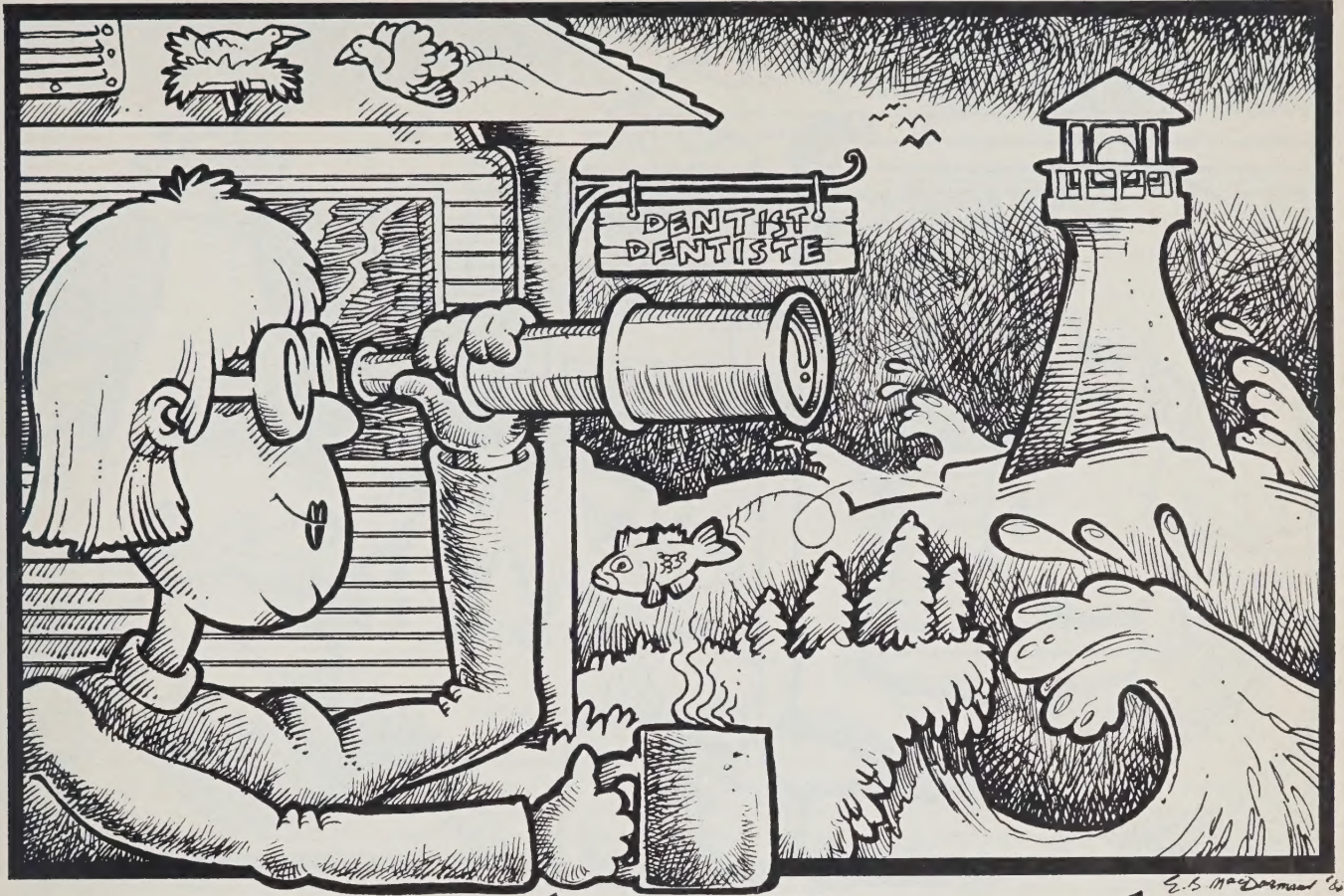
The Canadian Dental Hygienists' Association
L'association Canadienne des Hygienistes Dentaires

1320 Carling Avenue, Ottawa, Ontario K1Z 7K9
Telephone (613) 728-8730

TREASURER'S NOTES TO THE 1985 FINANCIAL STATEMENT

- 1.) The marked increase in membership income derives from the 1985 membership fee increase.
- 2.) For purposes of the auditor's report, in 1984, the committee expenses included some of the costs of the membership promotion campaign and the computer membership program. In 1985, these expenses have been separated completely. The computer services expenses reflect the establishment of the new computer system for membership and other activities. The provincial associations share fifty percent of the expenses of the membership computer and membership campaign programs.
- 3.) The reduction in Board Meeting expenses is the result of lower travel costs of holding the meeting in Central Canada.
- 4.) Members of the Board of Directors and C.D.H.A. representatives attended meetings in Ottawa, Montreal, Moncton, Charlottetown, St. John's, Chicago and Winnipeg representing Canadian hygienists.

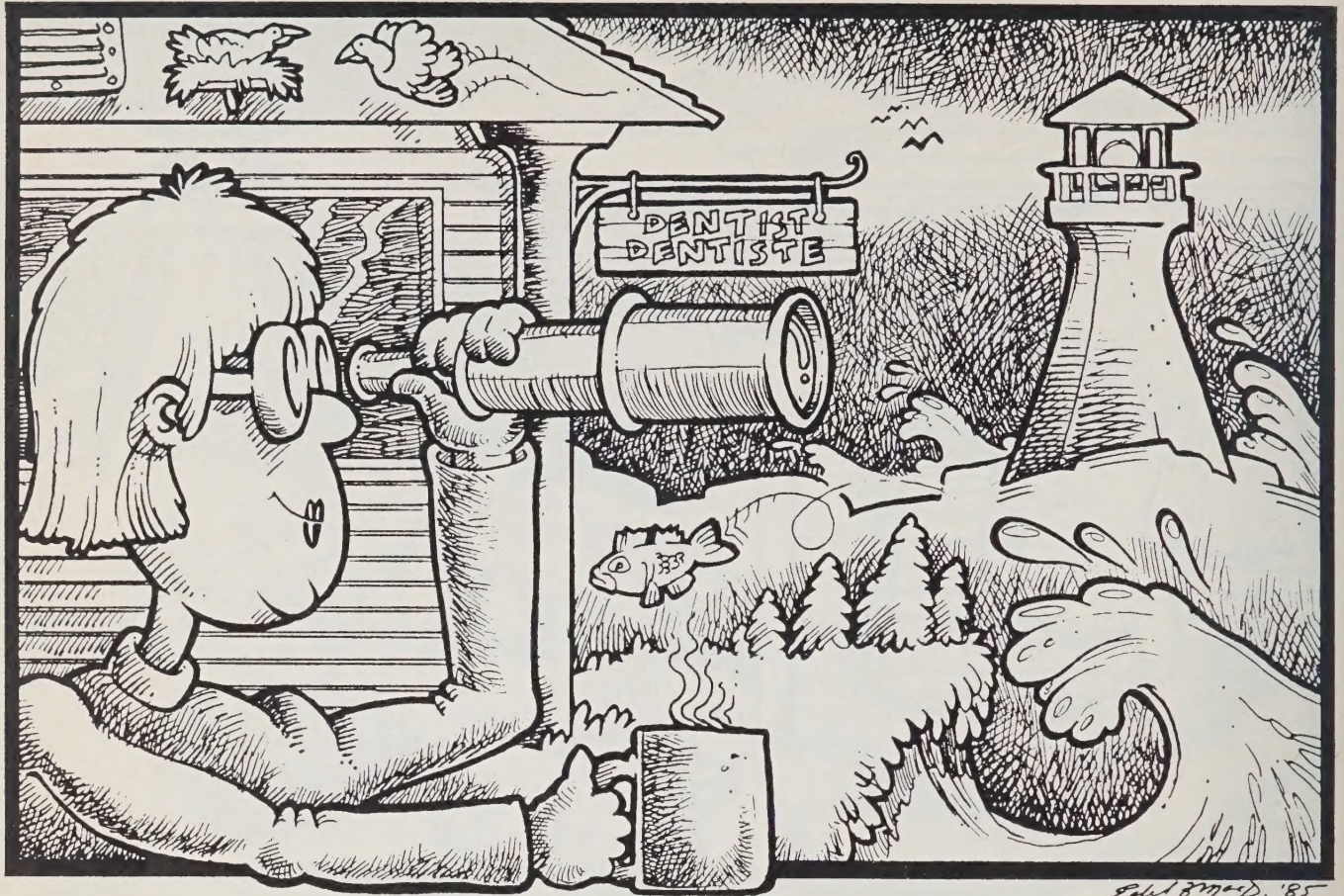
Looking To The Future



Canadian Dental
Hygienists' Association
National Convention

Halifax, Nova Scotia
August 24th-27th, 1986

Vers L'Avenir



L'Association Canadienne
Des Hygienistes Dentaires
Congrès National

Halifax, Nouvelle-Écosse
24-27 Août, 1986

Pregnancy Gingivitis and the Dental Hygienist's Intervention

Bob J. Martin, D.D.S

Judith Stevens Stewart, M.Ed.

Michelle N. Stone, R.D.H., B.S.D.H., M.B.A.

LITERATURE REVIEW

The data reported here are based on clinical and microscopic studies of the changes occurring in the gingiva and oral mucous membrane during pregnancy. An extensive review of the dental and medical literature has facilitated an assessment of the subject of endocrine relationships. The general physiologic changes in pregnancy have been considered, stressing some of specifically studied interrelationships of endocrine glands such as the pituitary,

adrenal cortex, thyroid and the ovaries.

The profound effects of pregnancy on the gingival tissue have been known for a long time, long before the endocrine changes in pregnancy were known or endocrine effects on the oral tissues even suspected. In 1874 a fairly accurate description of this oral condition, subsequently known as pregnancy gingivitis, was provided. At that point in time, it was believed that this condition was purely coincidental with pregnancy. In 1874 Oakley Coles stated, "Whilst therefore speaking of these changes that take place in the gums, we must bear in mind their appearance is due to the influences that are in operation at other times than during pregnancy and that beyond the fact of their coincidence, they would call for no special attention.¹ However, Drs. A. and D. Pinard in 1877 concluded that gingivitis was induced by pregnancy although the immediate cause was not known.²

In 1877 the *Dental Register* reported that Pinard had authored an article in the *Gazette des Hopiteaux* which stated that inflammation of the gums was a very common occurrence among a great number of pregnant women examined at a midwifery clinic. This inflamed condition generally appeared about the fourth month and usually disappeared a month or two after delivery, but was often prolonged over a longer period during nurs-

ing. Although healthy women were not quite exempt from it, gingivitis was most frequently observed in women whose general health was poor. It caused little pain, and gave rise to a small eschar which disappeared in a day or so.³ In 1899 a New York dentist made a similar observation.⁴

In 1912 Zentler described recurrent gingivitis during three pregnancies. In each pregnancy there was some hypertrophy of the gums, but this was more pronounced and required a greater recovery period in the 3rd pregnancy. Despite careful treatment of the mouth, the condition continued throughout the pregnancies; it disappeared after childbirth without any local interference in the first two pregnancies, and with very little interference following the third pregnancy.⁴

Talbot in 1913 concluded that interstitial gingivitis was always present in pregnancy to a more or less marked degree. He believed that this condition was due to autointoxication caused by retained toxins of the mother and fetus.⁵

Although the condition of pregnancy gingivitis has been known for a long time, progress in defining the etiology has been slow. In 1926 Monash observed six cases of pregnancy gingivitis and stated that the condition was entirely inflammatory in nature, representing an exaggeration in the degree of generalized gingivitis. He

ABSTRACT

During pregnancy the periodontal response to bacterial plaque may be exaggerated. This response, if unchecked, may result in an increase in various degrees of periodontal disease. Dental hygienists have long recognized the need to offer counselling to pregnant women having oral hygiene problems. The maternity cycle is both a time of great potential growth for women and a time of great educational opportunity for the professionals working with them. The dental hygiene profession is in a position to offer these women a goal of independent dental health.

suggested a treatment consisting of a thorough cleaning and scaling of the teeth, removal of badly decayed teeth and poor restorations, massage of the gums, and instruction in proper toothbrush technique. If necessary, growths could be excised after parturition. Little was said about etiology except that there was some gingivitis before pregnancy which was intensified during pregnancy.⁶

Merritt in 1930 concluded that there was no gingivitis peculiar to and found only in pregnancy, although gingivitis accompanied by oral sepsis was found during pregnancy. Hypertrophic growths appeared which increased in size during pregnancy and then disappeared after delivery.⁷

In 1931 Blum made a study of 16 cases of pregnancy tumors. The tumors occurred in various months throughout the pregnancy, and in women of varying parity. Blum theorized that pregnancy tumors were blood tumors originating from vasomotor disturbances of the endocrine balance as etiological factors, but there was no proof that internal secretion was involved, or if so, to what extent.⁸

In 1932 Hirschfeld stated that pregnancy produces obvious changes in the gums, namely: marginal gingivitis; hypertrophy of the gums, especially of the interdental papilla; and proliferations from under the gum, either interproximally or labiolingually. The condition could be generalized or localized, where a traumatizing factor such as food impaction or lack of function existed. The hypertrophied masses often continued to grow until after childbirth, when they usually disappeared.⁹

The earliest work which correlated the endocrines and the condition of pregnancy gingivitis was conducted by Ziskin et al. (1933). It was an experimental study and a histopathologic interpretation of the gingiva during pregnancy. This study found that some form of pregnancy gingivitis existed in 70% of the patients examined. This confirmed the study of 1932, where gingivitis was found in 53-60% of pregnant women and 15-18% of the nonpregnant control group. As a result of these clinical and histologic observations these researchers concluded that the gum changes in pregnancy gingivitis were the result of hyperplasia of the epithelium and a loss of keratin, and that hormones are probably the causative agents.¹⁰ This so-called pregnancy gingivitis was renamed "hormonal gingivitis" in 1935.¹¹

Ziskin et al. presented a paper to the faculty of the School of Dental and Oral Surgery, Columbia University, in March,

1933. Pregnancy gingivitis was designated as having four forms: bleeding of the gums, involvement of the free gum margin only, generalized hypertrophy of the tissue, and the pregnancy tumor.¹¹

Maier & Orban in 1949 reported on the gingival condition of 530 pregnant women between the ages of 16 and 40. Two hundred thirty-six of the women presented with pathologic changes, 150 showed mild gingivitis, 93 manifested moderate gingivitis, eight showed severe gingivitis, and three showed tumor formation. When this data was compared with those of nonpregnant individuals, there was no significant difference in the prevalence of gingivitis in pregnant and in nonpregnant individuals. Maier & Orban concluded that pregnancy could be considered a conditioning factor which influenced the character of pregnancy gingivitis, but could not be considered the primary etiological factor.¹²

Three hundred and sixty-six pregnant and postpartum patients were studied by Ringsdorf et al. (1962) in five obstetrical clinics in Birmingham, Alabama. The study concluded that no definite relationship could be demonstrated between pregnancy and the periodontal state. The factors related to the health of the periodontium during pregnancy were tooth brushing and tooth mobility. With the passage of time, gravidity played a role in periodontal pathosis. This study indicated that there is a significant difference in the oral health indices in the older as opposed to the younger age groups among both pregnant and postpartum individuals. The evidence suggested that periodontal disease may well be the result of the interplay of a host of factors.¹³

At the University of Bergen, Norway, epidemiological research reported by Loe & Silness in 1963 shed new light on the distribution and character of periodontal disease in general, as well as its relation to various endogenous and exogenous factors. One hundred and twenty-one pregnant and 61 postpartum women were examined in order to note occurrence and severity of periodontal disease. Assessments of the periodontal condition were made by means of Russell's Periodontal Index and a registration system designated as the Gingival Index. One hundred percent of the pregnant women showed signs of gingival inflammation. The prevalence and severity of gingival disease in pregnant women were significantly higher than in women postpartum. The increase was noticeable from the second month of gestation and reached a maximum in the eighth month. During the last month of gestation a definite decrease occurred. After parturition, the

state of the gingiva was similar to that at the second month of pregnancy. Gingival pocket depths were significantly increased during pregnancy. The decrease after parturition indicated that deepening was probably caused by enlargement of the gingiva. The increase in occurrence and severity of gingival inflammation during pregnancy did not seem to cause lasting injuries to the periodontium.¹⁴ Another study by Silness & Loe in 1964 emphasized that bacterial plaque was the most important factor in the initiation and maintenance of gingival inflammation in pregnant women.¹⁵

A series of investigations by Lindhe and Branemark in 1968 at the University of Umea in Sweden was designed to provide information about the physiologic and pathologic changes at the dentogingival junction during pregnancy. The concepts of the interaction between female sex hormones and the structure and function of granulation tissue which surfaced in a concurrent series of investigations clarified some of the biologic mechanisms behind the clinical signs of redness, swelling, and bleeding of the gingiva in pregnancy.¹⁶

Hugoson (1970) in Goteborg, Sweden, studied the state of gingival tissues and the oral hygiene in 26 women during pregnancy, and followed their progress for 20 weeks after parturition. Fifteen women received no dental treatment before the final examination, while the other 11 had their teeth scaled and were instructed in oral hygiene eight weeks after delivery. The periodontal examinations included determination of gingival exudate, the Gingival Index and pocket depths. The oral hygienist graded according to the Plaque Index system. All women had gingivitis and bacterial plaque on their teeth at every examination. The gingival inflammation increased during pregnancy until parturition, and then gradually decreased. Twenty weeks after delivery the gingivitis was less pronounced than in the 12th week of pregnancy. Healthy parts of the gingiva were not affected by pregnancy. The increase in gingivitis during pregnancy was not accompanied by any concomitant increase in the amount of bacterial plaque. A significant regression was found between the severity of gingival inflammation and the amount of sex hormones during normal pregnancy.¹⁷

In 1971 results of a study by Cohen et al. involving a longitudinal investigation of the periodontal changes during pregnancy and for a period of 15 months postpartum became available. In the presence of similar amounts of both hard and soft irritants, periodontal disease increased

with time in both the pregnant and non-pregnant groups. During pregnancy the gingival periodontal index was significantly higher. There was no significant loss of attachment during pregnancy; however, there was a significant increase in horizontal tooth mobility. An increased level of periodontal disease during pregnancy did not result in increased levels of periodontal disease fifteen months postpartum.¹⁸

El-Ashiry et al. in 1971 reported on a study of 120 pregnant and 50 nonpregnant Egyptian women. Assessment of gingival condition and amount of calculus around the anterior teeth led to the conclusion that pregnancy had the greatest effect on the gingiva during the first trimester, with further gingival changes noted in the third trimester.¹⁹

Adams et al. in 1974 described a study involving 100 pregnant and 100 nonpregnant Welsh women. The anterior interdental papillae of both groups of women were scored for gingivitis using a modified Gingival Index system. Debris was scored as being present or absent on canines and incisors. The pregnant women reported brushing their teeth more frequently than the nonpregnant women, thus accumulating less debris at the necks of their teeth. Increased gingivitis during pregnancy was found on the maxillary anteriors only. The researchers concluded that pregnancy gingivitis may have a systemic cause as a contributory factor.²⁰

Samat et al. published the following study in 1976. Forty pregnant women in each of three trimesters of pregnancy and 40 nonpregnant women of comparable age, socioeconomic status, and dietary habit were examined to evaluate the gingival condition and the calculus and debris deposits. The study showed a significant increase in the severity of gingivitis during pregnancy as compared to the nonpregnant women of comparable age, socioeconomic status, and dietary habit.²¹

Chaikin in 1977 reported on a study of 267 pregnant women, 66% of whom presented with fair to poor oral hygiene. Thirty-seven percent of this study group had some form of gingivitis. A second study involved 152 pregnant women, all of whom maintained good plaque control. Only 0.03% of this second group had gingivitis. Chaikin concluded that hormones play a minor role in pregnancy gingivitis.²²

O'Neill (1979) conducted an investigation to determine whether an increase in gingival inflammation during pregnancy could be correlated with increased circulating hormone levels. He found that an

increase in gingival inflammation occurred between the 14th and 30th weeks of pregnancy, and that marked increases in the plasma levels of estradiol and progesterone were also present during this same time frame; however, he was not able to demonstrate a direct association between the two.²³

The most recent studies have been limited to studies of the effects of topical and systemic folic acid supplementation on pregnancy gingivitis. In these studies folate mouthwash produced a highly significant improvement in gingival inflammation.^{24,25}

PREGNANCY GINGIVITIS

The consensus of clinical opinion is that pregnancy exaggerates the host's response to bacterial plaque; therefore, periodontal disease can be more serious in pregnancy. Periodontal disease is not a simple cause-effect phenomenon, but is rather the result of the interplay of a host of factors. Many clinicians agree that bleeding from the gingival sulcus is the earliest symptom of gingivitis and that the bleeding produces discoloration and swelling of the gingival units. Periodontal disease presents a problem to the pregnant individual which can be relevant to helping her gain a greater appreciation for developing good oral hygiene habits. She may also be motivated to encourage her children to improve their dental home care; indeed, hopefully she will want a better dental future for her entire family.

Pregnancy exaggerates a woman's bodily response to bacterial plaque; therefore, periodontal disease can be more severe during the gestational period. Four hundred and seventy-seven (477) pregnant women were examined in an obstetric and gynecology clinic in Baltimore; of the pregnant women examined, over 70% presented with gingival changes. Bleeding from the gingival sulcus during brushing was the earliest clinical sign. Other early signs included increased redness and swelling of the gingival margin.²⁶

The correlation between gingivitis and the amount of soft deposits is closer after parturition than during pregnancy. This indicates that an additional factor is introduced during pregnancy. That factor is responsible for the accentuated patterns of gingival tissue reactivity. Studies in Sweden substantiate the fact that there is an effect on the gingival tissues produced by the increase of female sex hormones. The Swedish scientists theorized that progesterone induces a marked increase in the vascular permeability of gingival tissue.²⁷

Realistically, prevention of periodontal disease comes with the diagnosis and treatment of marginal or incipient gingivitis. When the earliest signs of inflammatory gingival disease are recognized, pregnant women should be helped to identify the presence of the disease as a problem.

OPTIMUM TIME FOR LEARNING

Aside from its physiological aspects, pregnancy can be viewed as producing at times an altered state of consciousness, a term chosen because of its current association with psychological theories and treatment procedures which are oriented toward human growth. Pregnancy can be the epitome of positive growth experience. An altered state of consciousness is defined as qualitative alteration in the overall pattern of mental functioning. It is that in which the experienter feels her consciousness is radically different from the usual way it functions.²⁸

The maternity cycle has also been called a time of crisis. It must be realized, however, that the word "crisis" contains connotations meaning both danger and opportunity. There are in the childbearing cycle dangers and pitfalls into which patients can stumble without appropriate guidance and help. At the same time, the pregnancy experience is unique and offers opportunities which are seen in very few other life experiences. Pregnancy can stimulate introspection and self-evaluation. It can set the stage for personal growth to an extent almost unattainable at other times in life. Consequently, it is an exciting and stimulating time for teaching and learning.²⁹

DENTAL HYGIENE INTERVENTION

Dental hygienists working in public health prenatal clinics, private practice, and government-supported public health units are in an excellent position to instigate and direct a home-care oral hygiene program.* Dental hygienists have long recognized the need to help pregnant women with their oral health problems. A systematic, group-oriented approach, where several pregnant women are given skill instruction at the same time, is a time and cost effective means of providing oral hygiene instruction.

**Instruction sheets and literature are available from the principal author. Please enclose a self-addressed, stamped envelope.*

Oral hygiene supplies needed for the teaching program include toothbrushes, dental floss, mouth mirrors, and possibly floss holders for patients with manual dexterity problems. The teaching sessions will take about 30 minutes, and the atmosphere should, if possible, simulate a relaxed home environment. Patients should be encouraged to practice home care while watching television or in conjunction with some other activity they do daily. When an individual overlaps an established habit (watching the evening news) with the habit she is trying to establish (flossing), she will find it easier to keep the new habit operational.³⁰ Emphasis should be put on follow-up recall of these same patients at one week, one month, and every three months thereafter. Such recalls provide support and encouragement to the patient and allow the hygienist to determine whether or not good oral hygiene is being maintained.

SUMMARY

Periodontal disease during pregnancy is not a simple cause-effect phenomenon, but rather the result of the interplay of a host of factors. Bleeding from the gingival sulcus has been found to be the first clinical sign; other signs include redness and swelling of the gingival margin. Because the maternity cycle is a time when women may experience an altered state of consciousness, it can be a time of great learning potential. Dental hygienists can help pregnant women understand their own oral health problems and can provide them with the encouragement and skill training necessary for the effective management of these problems.

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B.J. Martin is Associate Professor, Department of Community and Preventive Dentistry, University of Texas Health Science Center at Houston Dental Branch. **J. Stevens Stewart** is Education Specialist, University of Mississippi School of Dentistry. **M.N. Stone** is an Instructor, Department of Community and Preventive Dentistry, University of Texas Health Science Center at Houston Dental Branch.

CDHA Guide to Submission of Manuscripts

Manuscript:

All manuscripts submitted for consideration for publication should be typed on standard (8½ x 11) paper, double-spaced, with a margin allowance of at least one inch. Three copies should be sent to the editor, and the manuscript must not be submitted to another publication while under review. A title page should be included stating the title of the paper and the author's full name, degree, and position.

Illustrations:

Illustrations must be clearly defined and suitable for reproduction on a reduced scale. Each picture should include a legend and should be marked in numerical order. Graphs and drawings should be drawn in Indian ink on white paper. Photographs must be glossy prints.

Length:

The preferred length of a paper is 8-10 typed pages or 2000 words including references. Space for illustrations should be considered in the length.

Subheadings:

It is suggested that subheadings be used within the paper for the reader's benefit.

References:

References should be lined up numerically. References to journal articles should be made as follows: last name of author followed by initials; title of article with only the initial letter of first word capitalized; full journal name followed by volume, number, first and last pages of article to which you refer, and year.

Example:

Bell, G. Role of the dental hygienist in restorative dentistry. *Dental Health* 40: 139-141, 1973.

References to books should be made as follows: last name of author followed by initials; title of book with initial letters of all words, except connecting words, capitalized; publisher; city of publication; year of publication; page or pages to which you refer.

Example:

Guthrie, H.A. *Introductory Nutrition*. The G.V. Mosby Co., St. Louis, 1975: 153-156.

Notice of Acceptance:

Manuscripts will be acknowledged upon receipt. Authors will be notified of acceptance of their paper before publication. Rejected manuscripts will be returned.

ACHD Recommandations aux auteurs

Textes:

Les textes doivent être remis dactylographiés à double interligne, sur papier 8½" sur 11"; toutes les marges doivent être d'au moins un pouce. Les auteurs doivent remettre un original et deux copies et le texte doit être soumis uniquement à L'Hygieniste Dentaire du Canada. Une page frontispice doit inclure le titre du texte, les noms, qualités et titres et postes du (des) auteur(s).

Illustrations:

Les illustrations doivent être claires afin que leur reproduction sur échelle réduite soit possible. Chaque illustration doit être accompagnée d'une légende dactylographiée. Les graphiques et schémas doivent être dessinés convenablement, à l'encre de Chine sur papier blanc. Les photographies doivent être des épreuves glacées; elles doivent être numérotées dans l'ordre.

Longueur du texte:

La longueur des textes devrait être de 8 à 10 pages dactylographiées ou de 2000 mots y compris les références. Les espaces pris par les illustrations doivent être inclus dans ces limites.

Sous-titres:

Les sous-titres sont recommandés afin de faciliter la lecture du texte.

Références:

Les références doivent être numérotées. Les références à des articles de revues doivent être faites de la façon suivante: nom du (des) auteur(s) initiale(s); du (des) prénom(s), titre de l'article (seule la première lettre du premier mot doit être en majuscule); nom au long du journal, numéro du volume, pages de l'article, année.

Exemple:

Zangwill, O.L. Le problème de l'apraxie idéatoire. *Revue Neurologique*, 102: 595-603, 1960.

Les références à des livres doivent être faites de la façon suivante: nom du (des) auteur(s) initiale(s); titre du livre (dans les titres en langue anglaise, tous les mots sauf les mots d'accompagnement doivent commencer par une majuscule); éditeur; ville où est située la maison d'édition; année de publication, pages (s'il y a lieu).

Exemple:

Guthrie, H.A. *Introductory Nutrition*. The C.V. Mosby Co., St. Louis, 1975: 153-156.

Avis d'acceptation:

Les manuscrits seront reconnus sur réception. Les auteurs seront avisés de l'acceptation du manuscrit avant la publication. Les manuscrits refusés seront retournés.

Announcements

SCIENTIFIC PROGRAM AND SPECIAL EVENTS

The Scientific Program of the 10th International Symposium on Dental Hygiene is being planned to provide practical knowledge and pertinent information which can be used in all countries.

Thursday, June 26, 1986

- * International Liaison Committee meetings
- * Opening Session in the City Hall
- * "Get Together Party"

Friday, June 27, 1986

- * Invited lectures
- * Workshops
- * Free paper sessions
- * Commercial exhibits

Saturday, June 28, 1986

- * Invited lectures

Exchange of relevant knowledge is being planned in WORKSHOPS in selected areas.

- * Workshops
- * Free paper sessions
- * Commercial exhibits
- * "Norwegian Evening"
- Gala Dinner and Entertainment

Sunday, June 29, 1986

- * Workshops
- * Free paper sessions
- * Closing Session

REGISTRATION FEES:

Not yet established.

1986 Tour Information

Full information on tour booking (see next page) is available from Conference Travel of Canada Inc., 102 Bloor Street West, Ste. 620, Toronto, Ontario, M5S 1M8. Telephone (416) 922-8161.

The Spring issue of this publication plans to publish news of the scientific program.

U of T reunion planned for '86

All Toronto '66 dental hygiene grads can look forward to a reunion in 1986.

Please contact Kathy Marsh for details... 494 Beacon Ct., Sarnia, Ontario N7V 2V9. Telephone (519) 344-4029.



1986 BCDHA Fee Increase

\$10. Active

1. Component
5. Allied/ Associate

Please forward cheque (\$5. Allied/ Associate; \$11. Active) to CDHA, 1320 Carling Ave., Ottawa, Ontario K2Z 7K9.

Thank you from BCDHA.

10TH INTERNATIONAL SYMPOSIUM ON DENTAL HYGIENE

OSLO, NORWAY, JUNE 26-29, 1986

Dear Colleague,

As chairman of the **10th International Symposium on Dental Hygiene**, we like to invite you to attend our congress which will be held in Oslo, Norway June 26 - 29, 1986. The chosen theme for the congress is **Dental Hygiene for Everyone**. Many outstanding international lecturers and clinicians will participate in the scientific program. In addition to formal presentations the scientific program will be designed to provide opportunities for the exchange of information and ideas among the symposium participants through presentations of free papers and workshops.

International Symposia on Dental Hygiene are held every three years under the auspices of the International Liaison Committee on Dental Hygiene. The first symposium was held in Italy and since then meetings have taken place in Switzerland, England, The Netherlands, Japan, Sweden, Canada, England and U.S.A.

We do hope you will be able to attend the 10th International Symposium on Dental Hygiene, to join dental hygienists from many countries in the accumulation of knowledge and to enjoy the hospitality of Oslo and the Norwegian Dental Hygienists' Association.

We are looking forward to welcoming you in NORWAY in 1986.

With kind regards,

Inger-Lise Bryhni R.D.H.
Chairman Org. Committee.

Elizabeth O. Kolbjornsen R.D.H.
Chairman Org. Committee

A SPECIAL GROUP TOUR OF SCANDINAVIA 14 Days in Total ITINERARY

Thursday June 19, 1986 **Canada-Copenhagen**
Leave Toronto by charter flight for Copenhagen, Denmark.

Friday June 20, 1986 **Copenhagen**
On arrival this morning, transfer by motorcoach to your hotel, the centrally located and deluxe ROYAL HOTEL. The remainder of the day is free to rest and relax.

Saturday June 21, 1986 **Copenhagen**
Grand Tour of Copenhagen covering all major sights; past the Tivoli Gardens and the New Carlsberg Glyptotek, through the colourful canal district, past the National Museum to Christiansborg Palace where the Danish Parliament sits. We continue to the old Stock Exchange and cross the Kongens Nytorv with the Royal Theatre, world famous for its Royal Ballet. Then past Nyhavn to Amalienborg Palace, the winter residence for the Royal Family. This is followed by a visit to the Gefion Fountain and the Little Mermaid, inspired by Hans Christian Anderson's fairytale. The coach continues to the magnificent Grundtvig Church and on the way back we pass Rosenborg Castle, where the crown jewels are kept.
This evening, board the ship for the overnight trip to Oslo, sailing past Helsingør (Hamlet's Castle).

Sunday June 22, 1986 **Oslo-Bergen**
Arrive in Oslo this morning, and transfer to the railway station for the scenic trip to Bergen. Your stay in Bergen is at the GRAND HOTEL TERMINUS.

Monday June 23, 1986 **3 Days & 2 Nights
Norway's Fjord Country**
This morning you depart by motorcoach and drive via Bergsdalen Valley to Voss. Continue by Bergen Scenic Railway to Flam. Afternoon cruise on the Sognefjord and the famous narrow Naeyofjord to Gudvangen. proceed by coach to Stalheim hotel for overnight.

Tuesday June 24, 1986
Travel via motorcoach to Norheimsund, then by fjordsteamer to Lofthus. Overnight at ULLENSVANG HOTEL.

Wednesday June 25, 1986 **Oslo**
Cross the Hardangervidda Mountains by coach to arrive in Oslo in the afternoon. MUNCH HOTEL.

Thursday 26 — Sunday 29, June, 1986 **Oslo**
These are the days of the Congress.

Monday June 30, 1986 **Oslo-Copenhagen**
The day at leisure in Oslo. Late this afternoon, board the ship for the overnight trip to Copenhagen.

Tuesday July 1, 1986 **Copenhagen**
On arrival this morning, transfer to the ROYAL HOTEL. The whole day is yours for shopping, sightseeing, visiting Tivoli Gardens, etc.

Wednesday July 2, 1986 **Copenhagen-Canada**
Leave Denmark this morning by charter flight, when you arrive in Toronto this afternoon, in ample time to make connections to all parts of Canada.

NOTE: IT IS POSSIBLE TO STAY ONE MORE WEEK IN EUROPE AND RETURN ON THE CHARTER FLIGHT WEDNESDAY JULY 9. WE WILL BE PLEASED TO ASSIST YOU WITH HOTEL RESERVATIONS, CAR RENTALS, ETC.

PRICE PER PERSON **CAN**
Sharing Twin Room \$2310.00
Single accommodation \$1225.00

Price includes:

- * Return air fare by charter from Toronto to Copenhagen
- * 2 Nights in Copenhagen at Royal Hotel
- * 5 Nights in Oslo at Munch Hotel
- * 1 Night in Bergen at Grand Terminus
- * 2 Nights on Fjord Tour
- * 2 Nights on Ship
- * Breakfast daily, plus 3 dinners on Fjord Tour
- * Transfers and baggage handling
- * Sightseeing
- * Transportation by motorcoach as shown

Not included:

- * Airport departure taxes, insurance and all items of a personal nature.
- * Price based on a minimum of 15 passengers travelling and subject to change.

SPECIAL ADD ON FARES TO TORONTO AND RETURN FROM

Vancouver	\$358.00
Calgary/Edmonton	\$278.00
Regina	\$278.00
Winnipeg	\$238.00
Ottawa	\$108.00
Montreal	\$108.00
Halifax	\$188.00

TRAVEL ARRANGEMENTS FOR THE CONGRESS ONLY

FOR THOSE WHO WISH TO ATTEND THE CONGRESS AND TRAVEL ON AN INDEPENDENT BASIS IN SCANDINAVIA AND/OR OTHER PLACES IN EUROPE, EITHER BEFORE OR AFTER THE CONGRESS, WE WILL BE PLEASED TO ASSIST YOU WITH THESE ARRANGEMENTS.

LAND ARRANGEMENTS

	HOTEL SCANDINAVIA	HOTEL MUNCH
Price per person		
Sharing Room	\$420.00	\$225.00
Single Room	\$675.00	\$335.00

Price includes:

- * 4 Nights accommodation, for arrival June 26th and departure June 30th.
- * Taxes and service charges
- * Breakfast daily

NOTE: Prices are based on 1985 rates and are subject to change.

EXAMPLES OF AIR FARES TO OSLO AND RETURN

Daily Flights	Scheduled Airlines	Charter Airlines
Vancouver	\$1126	\$1127
Calgary	\$1096	999
Edmonton	\$1096	1067
Regina	\$1096	1097
Winnipeg	\$1036	1057
Toronto	\$ 926	819
Montreal	\$ 926	-

Scheduled air fares are based on Special Apex fares with a minimum stay of 7 days in Europe, maximum 21 days. No stop-overs are permitted. All prices are subject to change without notice.

Charter prices are via Copenhagen (stop-over permitted in Copenhagen), plus a special add-on fare to Oslo. Charters are from Toronto and Calgary. Prices shown include special fares to these cities above.

Prices shown do not include airport departure taxes.

Announcements

CFDE Fellowship grants are available

March 1, 1986 is the deadline for filing applications for teacher/researcher training fellowships for the 1986/87 academic year.

Forms and additional information may be obtained from the Dean's office in each Canadian Dental School or the Canadian Fund for Dental Education at 234 St. George Street, Suite 202, Toronto, Ontario M5R 2P1.

Candidates must be Canadian citizens or landed immigrants who have com-

pleted an undergraduate course in dentistry, dental hygiene or a program in science and be eligible for admission to a graduate school.

Applicants must declare their firm intention to become a teacher and/or researcher in a Canadian Faculty of Dentistry or Dental Auxiliary Training Program. The minimum commitment in this regard is two days per week and preference will be given to those applicants who will return to a full-time teaching/

research position.

The number of fellowships to be awarded and their value will be determined by the Fund's Advisory Committee on Fellowship Selection and the Board of Trustees.

The names of fellowship recipients will be announced as soon as possible after CFDE's annual meeting, approximately the middle of May 1986.

CDA ACCREDITED DENTAL HYGIENE PROGRAMS

ALBERTA

School of Dental Hygiene
Faculty of Dentistry
University of Alberta
Edmonton, Alberta T6G 2N8

BRITISH COLUMBIA

Program of Dental Hygiene
Faculty of Dentistry
University of British Columbia
Vancouver, B.C. V6T 1W5

MANITOBA

School of Dental Hygiene
Faculty of Dentistry
University of Manitoba
780 Bannatyne Avenue
Winnipeg, Manitoba R3E 0W3

SASKATCHEWAN

Wascana Institute of A.A.&Sc. Dental
Division
4635 Wascana Parkway
Regina, Sask. S4P 3A3

ONTARIO

Algonquin College of A.A.&Tech.
1385 Woodroffe Ave.
Ottawa, Ontario K2G 1V8
(English program)

George Brown College of A.A.&Tech.
75 Kendal Avenue
Toronto, Ontario M5R 1M2

Canadian Forces Dental Services School
Dental Hygiene Program
Camp Borden, Ontario L0M 1C0

ONTARIO (continued)

Canadore College of A.A.&Tech.
P.O. Box 5001
North Bay, Ontario P1B 8K9

Durham College of A.A.&Tech.
P.O. Box 385
Oshawa, Ontario L1H 7L7

Seneca College
1255 Sheppard Ave., E.
Willowdale, Ontario M2K 1E2
St. Clair College of A.A.&Tech.
2000 Talbot Road West
Windsor, Ontario N9R 6S4

QUEBEC

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Département d'hygiène dentaire
3800 est, rue Sherbrooke
Montréal, Québec H1X 2A2

John Abbott College
P.O. Box 2000
St Anne de Bellevue
Quebec, H9X 3L9

CEGEP Francois Xavier Garneau
1660 Blvd. de l'entente
C.P. 6300
Sillery, Quebec G1T 2S5

Collège Édouard Montpetit
945 chemin Chambly
Longueuil, Québec J4H 3M6

NOVA SCOTIA

School of Dental Hygiene
Faculty of Dentistry
Dalhousie University
Halifax, N.S. B3H 0W3

Promotional Material

To identify Canadian products, "Think Canadian" tags and labels can now be affixed to Canadian made goods. They can be purchased from the Canadian Manufacturers Association (CMA), 1 Yonge Street, Toronto, Ontario M5E 1J9 or through regional CMA offices. Manufacturers and retailers can benefit from the "Think Canadian" campaign by participating in this labelling and by purchasing Canadian products first where they are competitive.

In addition, artwork with the attractive red maple leaf logo bearing the slogan "Think Canadian" is available free from the Business Information Centre (BIC), Department of Regional Industrial Expansion (DRIE), 235 Queen Street, Ottawa, Ontario, K1A 0H5, (613) 995-5771.

Matériel publicitaire de «Pensons canadien»

Des étiquettes et des insignes «Pensons canadien» peuvent maintenant être apposés sur les produits fabriqués au Canada. On peut se les procurer auprès de l'Association des manufacturiers canadiens (AMC), 1, rue Yonge, TORONTO, Ontario, M5E 1J9, ou auprès des bureaux régionaux de l'AMC. Les manufacturiers et détaillants peuvent tirer profit de la campagne en apposant ces étiquettes sur leurs produits et en achetant des produits canadiens lorsque leurs prix sont concurrentiels.

Le matériel de reproduction du logo «Pensons canadien» et les directives d'utilisation peuvent être obtenus gratuitement auprès du Centre d'information aux entreprises, ministère de l'Expansion industrielle régionale (MEIR), 235, rue Queen, OTTAWA, Ontario K1A 0H5, (613) 995-5771.

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JOB OPPORTUNITY

The Stettler office of the Alberta East Central Health Unit requires a full time Dental Hygienist for it's preventive dental health program. As well as regular hygiene duties, the job offers variety in areas such as education, assessment and some programming.

The successful applicant must be certified by the Coordinating Council of the University of Alberta and have a valid Alberta driver's licence.

Salary range is presently \$1945 — \$2516/month and is dependant on qualifications and experience.

Apply to:
Dr. J. MacQuarrie
Alberta East Central Health Unit
P.O. Box 550
STETTLER, Alberta
T0C 2L0

HOSPITAL DENTAL HYGIENE RESIDENCY PROGRAM

is now accepting applications for the July 1, 1986 — June 30, 1987 year. Application deadline is March 31, 1986. If interested please apply in writing to:

Jocelyne Long, Chairperson, Dental Hygiene,
John Abbott College,
C.P./P.O. Box 2000
Ste. Anne de Bellevue,
Québec
H9X 3L9
or call: (514) 457-6610 Local 442

FEE SCHEDULE

PROV.	ACTIVE	SUPPORT/ALLIED	STUDENT	ASSOCIATE
ALTA.	\$110.00	\$ 40.00	\$ 40.00	\$ 15.00
SASK.	125.00	45.00	40.00	20.00
NFLD.	85.00	30.00	25.00	5.00
ONT.	120.00	45.00	40.00	20.00
P.E.I.	85.00	25.00	25.00	—
MAN.	85.00	29.00	27.00	4.00
B.C.	105.00	35.00	30.00	10.00
N.B.	85.00	30.00	25.00	5.00
N.S.	100.00	25.00	25.00	—
C.D.H.A. only for out of country or Quebec	\$ 65.00	\$ 25.00	\$ 25.00	\$ 25.00

- NOTES:** 1. These are combined fees for provincial associations and C.D.H.A.
2. Associate memberships are for out of province residents to join the provincial association.
3. Saskatchewan residents remit fees in Janaury with their provincial licence fee.

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"Sometimes we make mistakes..." If you have not received your membership invoice for this year please contact Central Office immediately so there is no interruption in your membership services. Send us: 1. Name 2. Address 3. Phone No. 4. Membership Category 5. Number of hours worked per week 6. Type of practice 7. Don't forget your cheque or Visa Number and Expiry Date:

C.D.H.A.
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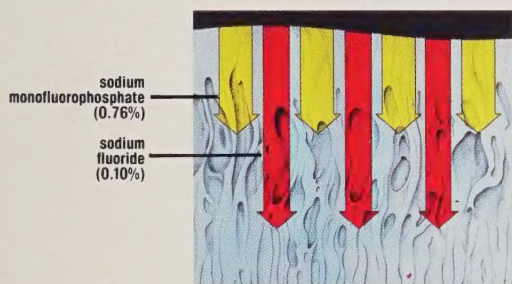
How Colgate's two fluoride formula achieves more complete remineralization resulting in nearly double the cavity protection of a single fluoride formula.*

A major role of fluoride in cavity prevention is to accelerate the process by which demineralized enamel is rebuilt.⁽¹⁻⁴⁾ This reverses white spot lesions which would otherwise become cavities.

Today's Colgate is the first toothpaste with two fluorides—sodium monofluorophosphate at 0.76% and sodium fluoride at 0.10%. Their differing molecular structures mean that these fluorides may work in different ways in tooth enamel. The result at these concentrations, is more complete remineralization of white spot lesions than either can achieve alone.

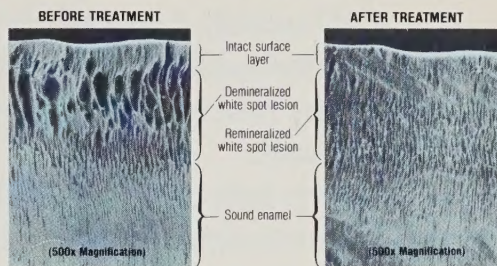
Why these two fluorides remineralize more completely.

It has been postulated that fluorides reach white spot lesions by penetrating enamel through the interprismatic spaces. Sodium monofluorophosphate, being a larger molecule, reacts with enamel primarily at the surface of a white spot lesion. Sodium fluoride, a smaller molecule, penetrates deeper into the lesion.



Working at different levels, the two fluorides may complement each other, enhancing remineralization over a greater area of the lesion than a single fluoride* alone.

This complementary action means more fluoride is available to enhance remineralization over a greater depth of the lesion than is provided by either fluoride alone.^(5,6)



This more complete remineralization has been demonstrated in laboratory studies⁽⁷⁾ and can be seen in the photomicrographs above.

Clinical studies show nearly double the cavity reduction.

Colgate with this two fluoride concept was tested in a three year clinical study.⁽⁸⁾ The results—Colgate's two fluoride formula provided 27.0% reduction in new caries versus 13.8% for the single fluoride positive control* (DMFT).

Conclusion.

Colgate's two fluoride formula provides superior cavity protection to a single fluoride formula*: *Only Today's Colgate has a two fluoride formula.*

When you recommend Colgate you're recommending an innovative product—offering advanced and clinically tested cavity protection.

*Sodium monofluorophosphate (0.76%)

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*Colgate Toothpaste contains sodium monofluorophosphate and sodium fluoride which are, in our opinion, effective decay preventive agents and are of significant value when used in a conscientiously applied program of oral hygiene and regular professional care. Canadian Dental Association

PARTNERS IN PREVENTIVE DENTISTRY.

Crest helps reverse the caries process... even after it's started.

Until recently, it was widely accepted that the caries process was irreversible and that fluoride worked mainly by reducing the solubility of surface enamel. But, in the past few years, researchers have brought a new understanding of caries formation and the ways in which fluorides work.

Experts have come to view the decay process as an imbalance in the natural dynamics of demineralization and remineralization going on in the tooth. An area of subsurface decalcification, or white spot, first signals that demineralization is outpacing remineralization, and that the decay process is underway.^{1,2} Research has shown that when free fluoride ions are introduced to the white spot area, remineralization can be accelerated—and the decay process actually reversed.^{1,2,3}

Now, research has demonstrated that Crest's Fluoristat—which delivers the highest level of free fluoride in Crest's history⁴—penetrates tooth enamel and concentrates its fluoride in the decalcified white spot areas,⁵ where it can hasten remineralization.

This begins to explain how Crest can help reverse the critical early stages of the caries process... even after it has started.

CREST
Concentrates its power
on the weak spots.



"Crest contains sodium fluoride which is, in our opinion, an effective decay preventive agent, and is of significant value when used in a conscientiously applied program of oral hygiene and regular professional care."

CANADIAN DENTAL ASSOCIATION

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